

A Model of Family Factors and Individual and Unit Readiness: Literature Review

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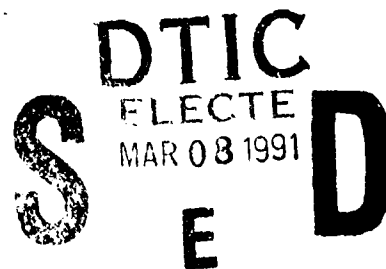
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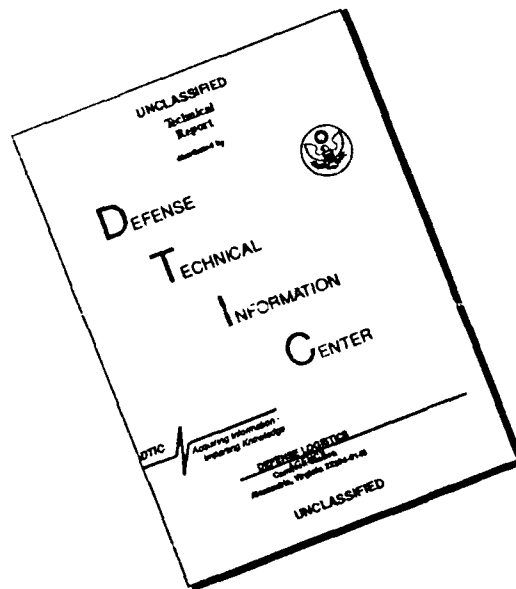
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A MODEL OF FAMILY FACTORS AND INDIVIDUAL AND UNIT READINESS: LITERATURE REVIEW

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INTRODUCTION

Overview

As stated in the Army Family Action Plan III, the "Human Goal has an objective of fostering wholesome lives for Army families. This objective follows the realization that by providing for families, the Army is contributing to its ultimate goal, total readiness" (Army Family Action Plan III, DA Pam 608-41, 1986, para 1-4c). Although the goal is indeed praiseworthy, the link between providing for families and achieving total readiness warrants a closer look.

That the Army's ultimate goal is total readiness can scarcely be debated. But what readiness is, and how it may be measured, and where it comes from, are questions still open to investigation. In general, readiness is the capability of the unit to perform the mission for which it is organized. The Army's doctrinal definition of readiness is focused on factors of equipment and personnel strength. However, it is generally recognized that

"there are important dimensions of readiness that, though more qualitative and less tangible, can still be measured and quantified. Some of the components of readiness at the unit and individual levels are: mobilization (availability and willingness to mobilize, availability for deployments and overseas assignments), combat effectiveness (including willingness to assume risks, performance in combat situations), productivity (including attentiveness, safety, motivation, willingness to work extra hours, low absenteeism), assignment availability (willingness to accept specific assignments such as command positions or overseas tour extensions), and morale" (Segal, 1986, p. 11).

It is unlikely that these or other intangible components of readiness can be measured in terms of equipment and personnel strength. And although it could be that equipment and personnel strength are somehow improved by providing for families, it seems more obvious that these intangibles are amenable to enhancement by attention to family needs and concerns.

The Army's state of total readiness is in large part the function of the readiness of Army units. And the readiness of those units depends in both definition and realization on the readiness of the individual soldiers -- enlisted members, noncommissioned officers, and officers -- in the units. As unit readiness is the capability of the unit to perform its mission, individual readiness is the capability of the soldier to perform the duties required for accomplishment of the unit mission. Here, though, because we are dealing with humans rather than organizations, capability includes not only the ability to perform, but also the willingness to perform -- whenever, wherever, and whatever is required. Both the ability to perform and the willingness to do so are a function of many factors, among which must surely be those associated with her/his spouse and family situation.

Objectives

The project of which this effort is a part seeks to discover the relationships among unit readiness, individual readiness, and family contributions to readiness, and to propose actions that the Department of the Army could take with regard to family issues that could enhance unit and individual readiness. This literature review examines previous research and thought regarding the factors that have an impact on readiness, their

strength, valence (positive or negative), and causal or moderating role. The review is organized in four sections. In the first section we will present an overview of the conceptual model of readiness that is guiding the initial efforts of the project. We then review operational definitions of individual and unit readiness, as suggested by the initial model and by findings of other researchers. In this second section we will also discuss various measurement issues associated with the factors. The third section summarizes the previous research on the strength, valence, and role of the determinants of individual and unit readiness. Finally, we conclude with a discussion of the implications of these findings for the project.

CONCEPTUAL MODEL

Overview of Research Model

The initial model that has been proposed, which explicates the relationships between individual readiness, unit readiness, and various and sundry determinants, is shown in Figure 1. Five major classes of variables are represented in the overall conceptual framework. These five classes of variables are: background factors, environmental conditions, comparative perceptions, integrated assessment and behavioral outcomes. Because the primary focus is on the behavioral outcomes, the following brief explanation of the conceptual model flows against the current, that is, from outcomes to antecedents.

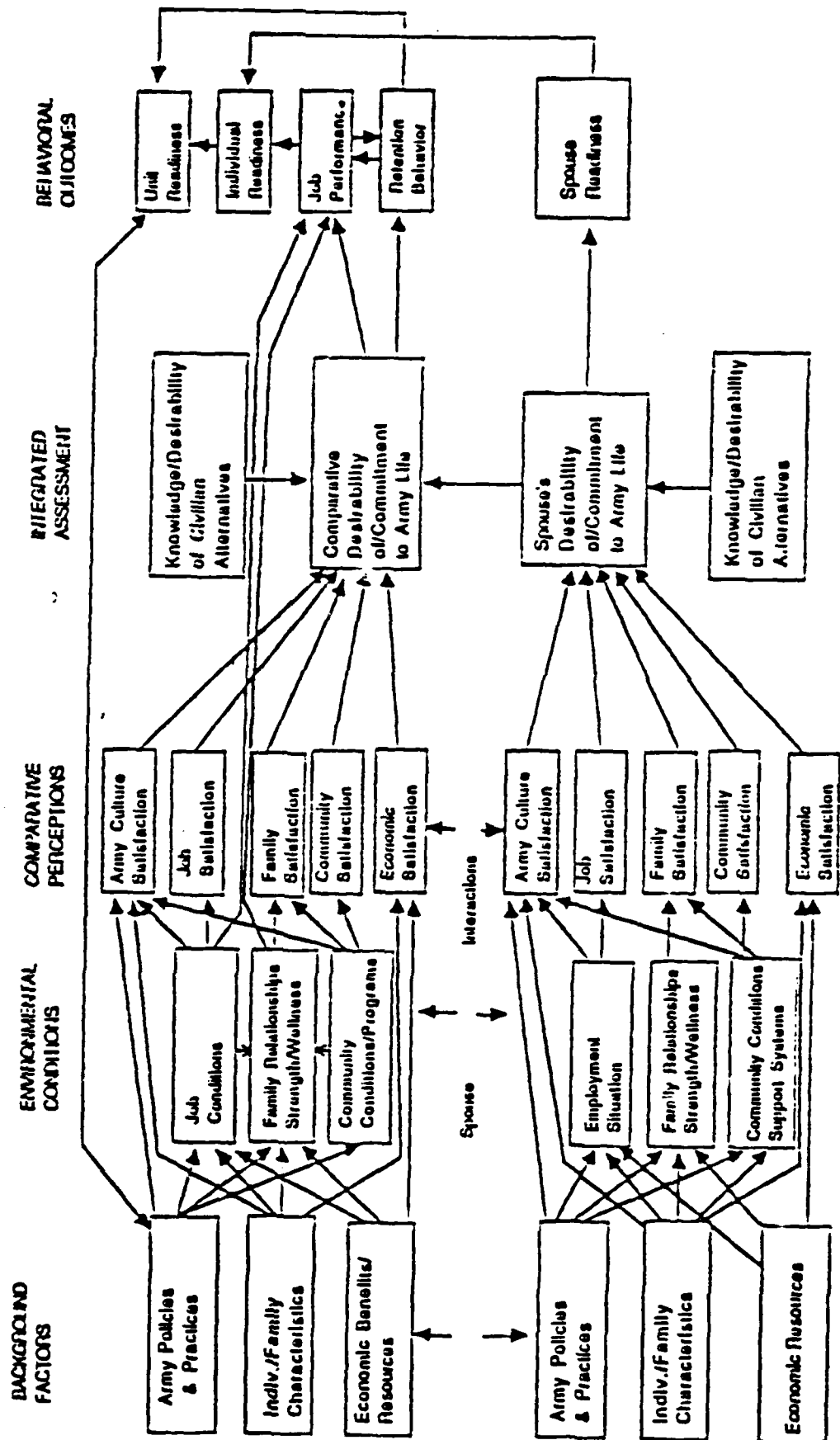
At the terminal point of the conceptual model is unit readiness. Its position in the model reflects the Army's philosophy that total readiness is the ultimate goal. Its most salient determinants are the other behavioral outcomes, individual readiness, job performance, retention behavior, and spouse readiness; all of the behavioral outcomes are hypothesized to be interrelated. The model also recognizes that readiness (both unit and individual) can be influenced directly by Army policy and practices.

As shown in the model, the penultimate outcomes--job performance, individual readiness, spouse readiness, and retention--are influenced by the commitment to Army life of both member and spouse. That commitment is based on the knowledge of and comparative desirability of civilian alternatives, relative to the Army situation. It is expected that families and individuals make relative judgments comparing their current Army life

FIGURE 1

ELABORATED CONCEPTUAL FRAMEWORK FOR THE ARMY FAMILY RESEARCH PROGRAM

FIGURE 1
ELABORATED CONCEPTUAL FRAMEWORK FOR THE ARMY FAMILY RESEARCH PROGRAM



situation with perceived civilian alternatives in the areas of organizational culture, job, family and community life and economic advantages. These comparative judgments yield a degree of satisfaction or dissatisfaction regarding the quality and desirability of Army life for both the Army member and spouse.

The environmental conditions which influence the member and spouse judgments include the quality of the family relationships (i.e., family strengths and wellness), local community conditions affecting access to support services and participation in social support networks, and Army job demands and job characteristics; the family relationships are shown as being themselves influenced by the other two factors. The family relationships and the job conditions also have direct impact on the soldier's job performance.

The conceptual model predicts that the background factors have an impact upon the environmental conditions that define the context in which Army members and families must operate. The factors of primary interest include Army policies and practices, individual and family characteristics, and the economic resources of Army personnel and families.

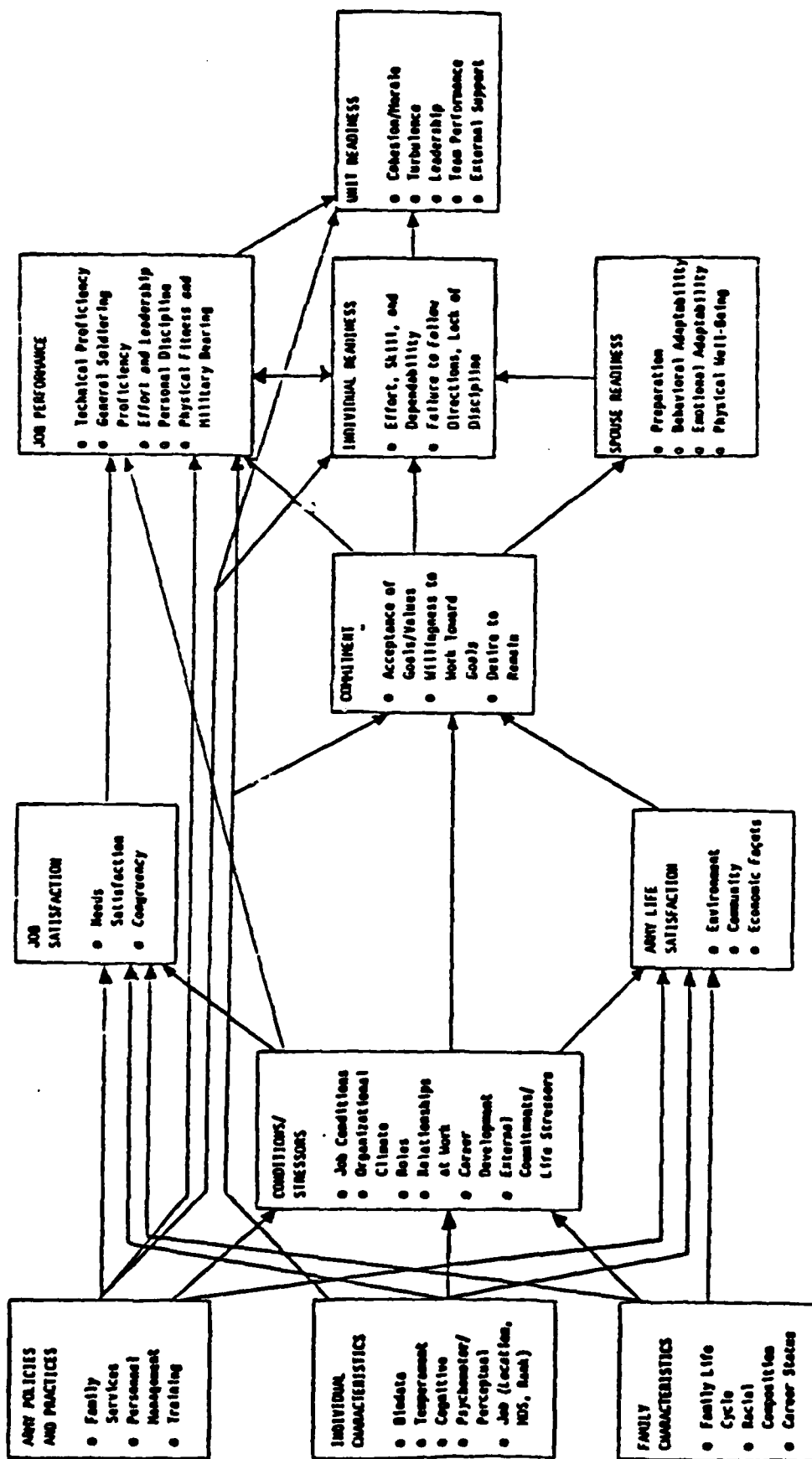
Restricted Model -- Readiness Issues

Given the current model, the goal of Task 3 is to investigate the variables within each of the five classes of variables that relate to individual and unit readiness. Other literature reviews are examining retention (Task 2), family strength (Task 1), and spouse employability (Task

4). The restricted model, showing only those factors or domains that are within the scope of this effort, is shown in Figure 2.

Among the background factors, those that have direct or indirect impacts on individual and unit readiness are individual (soldier) characteristics and characteristics of the individual's family, and Army policies and practices. Certain specific policies and practices specifically define the job conditions for each soldier. Depending on the needs and values of the individual, those conditions will produce different amounts of job stress. Thus, the job conditions, along with other aspects of the two background factors, give rise to the comparative perceptions of the soldier concerning current needs and opportunities, which we see as two factors: Army culture (organizational) satisfaction and job satisfaction. These two factors work together to produce an integrated assessment, the soldier's commitment to the Army's goals and way of life; this factor influences and is influenced by the spouse's commitment to the Army life.

Figure 2. Restricted Model of Factors Influencing Individual and Unit Readiness



Job performance, as the first behavioral outcome, is seen as a function of the preceding elements: the soldier's and family's commitment to the Army, the conditions (stressors) of the job, and the soldier's individual aptitudes and attitudes. Individual readiness is determined not only by the level of job performance, but also by the soldier's perceptions of the spouse and family coping skills, and by the adequacy of the Army's agencies in caring for the family. The final behavioral outcome, unit readiness, is largely a function of individual readiness, but will also be influenced directly by Army policies and practices, both unit-specific and Army-wide.

This, then, is the initial working preliminary conceptual model. Our review of the literature is intended to inform the data collection and analyses, by presenting evidence to support the hypothesized relationships.

DEFINITION AND MEASUREMENT OF INDIVIDUAL AND UNIT READINESS

Unit Readiness

Definition of Unit Readiness

The Department of Defense defines readiness as "the ability of forces, units, weapon systems, or equipment to deliver the outputs for which they were designed (includes the ability to deploy and employ without unacceptable delays)" (United States General Accounting Office, February, 1986). From this rather broad definition, we derive the definition of unit readiness as the capability of the unit to perform the mission for which it is organized. Unit missions are documented for every TO&E unit. For example, the mission of a tank company (Armored Cavalry Squadron, Armored Cavalry Regiment) is "to close with and destroy enemy forces using fire, maneuver, and shock effect." The mission of a medical clearing company is to "receive, sort, and provide emergency or resuscitative treatment for patients until evacuated; provide definitive treatment for patients with minor illnesses, wounds, or injuries." The mission of an assault special helicopter company is to "provide air transport of personnel and cargo for combat service support and combat support operations." (These missions were found in the Army's "Extracts of Non-Divisional TOE," FM 101-10-2, 1977.)

At last count, there were approximately a zillion company-sized units in the Army, each with a mission. For some units, the mission is to support the ongoing operations of the Army, whether in war or in peace. For others, the mission is combat-oriented, and the peacetime mission is to prepare (train) to be able to accomplish the combat mission. In these units,

readiness takes on characteristics of probability statements, that the unit will be able to perform the required activities, under certain conditions, when it is called upon to perform them.

Measurement of Unit Readiness

In the civilian sector, in business and industry, the measure of success or achievement (what the military would refer to as mission accomplishment) is in terms of productivity, involving the ratio of the output of goods and services to the inputs used to produce them. Although the concept of industrial productivity is qualitatively different from the concept of military readiness, industry and the military have much in common in their concern for enhancing productivity/readiness, as well as in their approach to improving the performance of the organization. Both have devoted considerable thought to selection and placement policies, training, turnover/attrition, motivational strategies, organizational effectiveness studies, characteristics of supervisors/leaders, and so on, all in the interests of improving productivity/readiness.

In order to monitor the readiness levels of units, the Army requires annual submission of the Unit Status Report, in which unit commanders estimate and report readiness in five areas: equipment and supplies on hand, equipment operational condition, personnel strength, personnel qualified, and training status on mission-essential tasks. Ratings on the first four factors are based on assessment of actual conditions compared to the criteria of authorized conditions, while the fifth factor, training status, is the commander's evaluation of the unit's proficiency on specific

unit tasks. To the extent that a unit has the authorized number of qualified personnel and equipment, and the equipment is operational, and the personnel are trained to perform their tasks, the unit is in a state of readiness.

But there are other factors that are believed to enhance/reduce the probability that the unit will be able to accomplish its mission, and which also affect accomplishment of the unit's peacetime mission. They include unit cohesion (sometimes referred to as morale), personnel stability/turbulence, team (crew, squad, platoon) performance, perceptions of supervisor/leader competence, and external and higher level support of the unit. Neither these factors nor the personnel and equipment readiness ratings are direct measures of readiness; except for simulated combat alerts, drills, and exercises, we cannot assess readiness in the absence of actual outbreak of hostilities (when, presumably, we will have more pressing responsibilities), and we have no flexibility in manipulating experimental conditions in order to measure the causative factors in readiness. Thus these tangible and intangible factors, which are more accurately perceived as antecedents of readiness, have come into use as surrogate measures of readiness, or readiness indicators.

Indicators of Unit Readiness

The Unit Status Report has received considerable criticism (United States General Accounting Office, 1986; U.S. Army War College, 1976) because of perceived subjectivity in its preparation. The U.S. Army War College study found that 70% of the Army personnel surveyed believe that the report

does not accurately reflect readiness. The GAO report concludes that Unit Readiness Reports are subject to bias in both positive and negative directions: Commanders who prepare the reports are permitted certain latitude in determining readiness ratings, which may be inflated because of the desire to look good, or which may be underestimated because of the desire to highlight perceived problem areas. The GAO report further points out that readiness reports do not include information on so-called intangibles, such as experience, morale, and leadership, which have been shown to be statistically more important than aircraft or combat vehicle performance factors.

Because of these perceived flaws in the available readiness indicators, the measurement of unit readiness or unit effectiveness has taken many forms, most of which are measures of readiness correlates or predictors, or subjective evaluations of readiness by unit personnel, rather than of readiness itself. Taylor (1982), in discussing readiness, states that readiness reports do not and cannot measure whether American military personnel will carry out their assigned missions, or the impact of the attitudes on how well they will perform assigned tasks. He describes the willing response to orders as a function of organizational esprit, or the manifestation of organizational morale. Military units with high level of morale are units which obey lawful orders immediately and carry out their missions willingly to the best of the coordinated abilities of the individuals in the unit--in short, units with a high degree of readiness.

In studies which investigated unit readiness or unit effectiveness, the operational definition of readiness has been in terms of unit performance indicators such as AWOL, nonjudicial punishment rate, drug and marijuana offense rate, sick call rates, number of awards, and reenlistment rate (Bowers & Krauz, 1983; Griesemer, 1980; Griesemer & Hart, 1981; Manning & Ingraham, 1978; Spencer, Klemp, & Cullen, 1977; Sterling & Carnes, 1981); subjective global evaluations of combat readiness from unit personnel (Gal, 1986; Griffith & Vaitkus, 1986; Shirom, 1976; Siebold, 1987; Sterling, 1984); ratings of unit performance in simulated combat exercises (Manning & Ingraham, 1978; Olmstead, Elder, and Forsythe, 1978; Spencer, Klemp, & Cullen, 1977; Twohig, Rachford, Tremble, & Williams, 1987); ratings by unit personnel of various aspects of unit climate (Allen & Potter, 1987; Griesemer, 1980; Griesemer & Hart, 1981; Spencer, Klemp, & Cullen, 1977); incidents of combat stress reaction (Solomon, Mikulincer, & Hobfoll, 1986; Steiner & Neumann, 1978); and/or indices similar to those used in preparing the Unit Status Report (Bowers & Krauz, 1983; Manning & Ingraham, 1978; Spencer, Klemp, & Cullen, 1977).

The report by Spencer, Klemp, and Cullen (1977) presents the results of content analyses of critical incidents, direct interviews, and review of previous studies in deriving a list of various measures of unit effectiveness. The identified criteria are listed along with comments on their availability and reliability. The measures are categorized as either performance or satisfaction outcomes. Performance measures include inspection scores, mission accomplishment results, efficiency measures, personnel development indices, and awards; the satisfaction measures include

retention, discipline, intergroup health, family, and community relations outcomes. Among the 45 measures listed, reliability ranges from poor, through questionable and variable, to very good. In some cases, low ratings are attributed to nonavailability, capriciousness, or variances in unit recordkeeping; in other cases, low base rates (frequency of occurrence), which may reflect semideliberate underreporting, underly low reliability ratings.

Kerner-Hoeg and O'Mara (1981) examined the acceptability of various indices of unit effectiveness among Army battalion commanders, brigade commanders, and general officers; the indices included readiness measures such as the Unit Status Report, the Army Training and Evaluation Program (ARTEP) results, and Annual General Inspection (AGI) reports; command indicators of discipline and morale such as reenlistment rates, crime rates, military justice related indices; and personal judgments of battalion effectiveness. In general, the indices judged as most accurate or valid were the readiness measures and personal judgments. When commanders were asked which five measures they would include in an overall measure of battalion effectiveness, the four most frequently selected measures were the ARTEP, the AGI, personal judgments of company grade officers, and personal judgments of company grade NCOs. The traditional command indicators of discipline and morale within the unit were seen as too ambiguous to be useful in assessing unit effectiveness.

Studies in the Navy and in industry of indices of organizational effectiveness (e.g., Bowser, 1976; Mahoney & Weitzel, 1969; Weitzel,

Mahoney, & Crandall, 1971) yielded similar results. Managers and supervisors express more confidence in those indices of organizational performance that reflect operational factors than in indices that reflect personnel and human relations factors.

In a study examining the feasibility of using expert judgments to supplement performance data (Neff & Solick, 1983), officer-raters were provided detailed information regarding the conditions, participants, and schedule of continuous operations exercises, as well as results from initial phases of the exercise. They were asked to estimate the expected performance in subsequent phases of the exercises. Although there was strong agreement among the officers in their predictions of performance, they were unfortunately not accurate in predicting performance.

Cohesion/Morale. Numerous studies have focused on the antecedents and consequences of unit cohesion and morale, the definitions of which are often strikingly similar.¹ Motowidlo and Borman (1977) define morale as the psychological state shared by group members, consisting of general feelings of satisfaction with conditions that have impact on the group, and motivation to accomplish group objectives. Manning and Ingraham (1981) propose a definition of morale as an individual characteristic, a

¹ We hesitate to embark on a full review of the morale/cohesion literature. ARI is currently in the process of reviewing proposals for a project which will examine the relationship between cohesion and unit performance. Sneak previews of the literature reviews prepared as background for one such proposal have led us to the realization that we cannot do justice to the previous research in this area within the scope of this literature review.

psychological state of mind, characterized by sense of well-being based on confidence in the self and in primary groups; the group level counterpart of morale is cohesion. This distinction between morale as an individual level variable and cohesion as a group level variable, albeit fuzzy, seems to be gaining acceptability in military research.

Cohesion is seen as comprising three dimensions (Griffith & Vaitkus, 1986). Two of the dimensions are group characteristics: vertical (peer) bonding and horizontal bonding (between subordinates and leaders). These two relational dimensions are each characterized as having two functional aspects: affective support and instrumental support. The third dimension is commitment, defined as the extent to which the individual feels a sense of belonging and loyalty to the group.

Kimmel and O'Mara (1981) and Kimmel, O'Mara, and Babin (1984) examined aggregated job satisfaction across unit members as a measure of unit morale, which they define as an affective orientation towards the work unit or organization which includes job satisfaction as one of its major components. The impetus for their study appears to be the confusion in the literature between morale defined as an individual level variable and morale as an organizational variable characteristic of the unit as a whole. In order to measure affective orientation toward the unit, they used as the dependent measure a 69-item organizational climate questionnaire that included items on attitudes toward the unit, supervisors, coworkers, and the job. The unit climate items covered unit effectiveness, quality of communications, organizational standards, and orderliness and purpose.

of activities. They found that satisfaction measures and climate measures were highly correlated, and that battalions differed reliably on the aggregated satisfaction and climate measures; these results were consistent across three data collections over a 12-month period. They thus conclude that morale, as measured by aggregated unit members' satisfaction, is a relatively stable organizational construct.

Knowlton (1983) reviewed various writings and research on morale, and states that there is general agreement that the unit's state of morale is a primary factor in effectiveness and battlefield survival. He suggests that morale is composed of individual motivation, individual satisfaction, and group cohesion. The determinants of morale are leadership, pride in unit, patriotism, unit cohesiveness; its indicators include military courtesy, appearance of troops and equipment, AWOL rates, and number of disciplinary actions. Knowlton proceeds to recommend actions required of unit commanders to increase morale, although he does not cite any evidence that these actions will in fact enhance morale or subsequent state of readiness or unit effectiveness.

A concept paper by DePontbriand, Dawdy, and Hawley (1985) lays out the minimum considerations that must be addressed in designing cross-training programs for surge (i.e., combat condition) requirements. Among the list of required considerations are not only basic organizational concerns (needs, constraints, and resources) and training plans, but also social factors such as motivation, cohesion, and morale. Simply by the inclusion of these factors as necessary considerations, their importance to the eventual

effectiveness of any combat-readiness training programs is acknowledged. In discussing cohesion, they cite studies (Greenbaum, 1979; Shils, 1950; Shirom, 1976) that suggest that among cohesive groups, group influence has a greater effect on carrying out a mission than did even the authoritarian leadership, the traditional way of life in the military.

The Navy, in 1981 and 1982, instituted a program called Project Upgrade, which was an effort to raise the pride, professionalism, and performance of units by the expeditious discharge of nonperformers (Bowers & Krauz, 1983). At the unit level, Upgrade rates were found to be correlated with unauthorized absences, desertion rates, nonjudicial punishments, drug and marijuaan offense rates, and reenlistment rates; the relationship held up even when these unit performance indicators were collected over the three-year period prior to implementation of Project Upgrade. Traditional unit readiness indicators (equipment, supply, training, and personnel readiness) were not related to Upgrade rate, however. From case studies of Upgrade casualties, it is concluded that the key to the prevention of Upgrade behavior appeared to be a structure of cohesive teams, well integrated into the values and mission of the unit.

Shirom (1976) conducted surveys and interviews among Israeli infantrymen, during periods of combat activity in the Golan Heights. Findings suggested that a soldier's combat performance was not related to his commitment to objectives of the war, nor to his perceptions of unit morale, but was related to affective support provided by the soldier to

others in the unit. Thus one aspect of cohesion (as defined above) was found to be a factor in combat performance.

Gal (1986) and Gal and Manning (1984) report on studies of unit morale among Israeli Defense Forces and among U.S. Army soldiers. Although the definitions of morale and motivation both involve the readiness to fight and sacrifice for the sake of the mission, morale is proposed as a group or unit level variable, while motivation is an individual level variable. The Combat Readiness Morale Questionnaire, which was designed to assess combat unit morale, cohesion, and combat readiness, was administered to 1200 Israeli troops in combat units on alert; the questionnaire was subsequently translated into English, with several items reformulated for relevance, and administered to Army troops in the U.S. and Europe. Among all three groups, cohesion and morale came together in the questionnaire analysis as a single factor. Among U.S. Army soldiers, the cohesion/morale factor included technical and operational readiness aspects; among Israeli troops, more human components of confidence in commanders and other soldiers were included.

Early in 1981, the Army initiated a system of rotation of entire units, rather than the rotation of individuals, beginning with combat arms units. The objective was to reduce personnel turbulence and increase cohesion, and by so doing to increase readiness. The impetus for the decision, implemented under the title of New Manning System, was the realization that personnel turbulence is one of the major impediments to combat effectiveness. Turbulence inhibits the development of cohesive units and

degrades training standards and readiness (Leggee & Andrews, 1982), and the individual replacement system, the Army's traditional mode of replacement, was identified as the primary cause of turbulence.² Mason (1983) asserts that with the increased stability under the New Manning System, squads and crews may require less initial training as a group, with periodic refresher training to maintain their skills; NCOs will work harder to hone those team skills; companies will experience fewer disciplinary problems and higher levels of military bearing among enlisted personnel and NCOs.

Examination of the effects of the New Manning System have focused largely on cohesion. Early studies (ARI, 1981, 1982, 1983) had reported on cohesion among first term soldiers in New Manning System units, finding that first termers exhibited considerable horizontal (peer) bonding, but lower levels of vertical (subordinate-supervisor) bonding and personal integration (measured in terms of morale and self-perceived adjustment). Personal integration seemed, in fact, to show a decline when the unit training emphasis was shifted from individual training to unit or collective training.

Tremble, Kerner-Hoeg, and Bell (1983) surveyed leaders (i.e., non-first-term personnel) in units under the New Manning System and units with individual replacement policies. Among leaders, cohesion, as indicated by personal integration and vertical and horizontal bonding, was found to be high for all units; as with first-termers, bonding declined significantly

² Turbulence is also, of course, exacerbated by attrition, but the attrition/retention issue is covered in more detail in another literature review being prepared for this project.

across time, or across unit cycle (from individual training cycle to collective training cycle; time and cycle were confounded). Leaders in New Manning System units had somewhat higher levels of personal integration than did leaders in other units, as well as higher levels of loyalty and commitment to the unit. Evidence of higher levels of cohesion in New Manning System units was found in senior leaders' bonding to junior leaders, and in horizontal bonding among junior leaders. The bonding from junior leaders to senior leaders as measured by perceptions of concern declined across time, while perceptions of insistence on high standards of performance did not decline. The authors infer from these findings certain implications for leader behaviors that might enhance the development of cohesion among unit members.

Despite this interest in cohesion as a desirable factor in enhancing unit performance, there is some evidence that cohesion is not entirely good for performance. Kahan, Webb, Shavelson, and Stolzenberg (1985) compiled a lengthy review of the literature on individual characteristics as antecedents of unit performance, in which they focus on both military studies and team sports psychology. They conclude that instrumental cohesiveness could be promotive of group productivity, whereas affective cohesiveness could hinder productivity. When there is a strong degree of affective cohesiveness, the group energies are directed toward promoting that closeness, leading to less critical appraisal of performance. In groups where there is a high level of instrumental cohesiveness, reinforcement for individuals is contingent on performance. Furthermore,

instrumental cohesion seems to be generated as a consequence, rather than a cause of group productivity.

Turbulence. Other studies have focused on personnel stability or turbulence as a less direct, but more quantifiable, indicator (or predictor) of readiness. Turbulence, in small groups or teams, is defined in terms of position familiarity, personnel familiarity, and equipment familiarity. Egerman (1966) and Wagner, Hibbits, Rosenblatt, and Schulz (1977) found evidence which indicates that structured team performance depends primarily on the skill levels of individual team members, so that the effects of personnel turbulence on structured tasks would be expected to be minimal. However, in relatively unstructured situations, such as performance of tank crews on firing exercises, both position and personnel familiarity have been found to be related to performance (Eaton & Neff, 1978; Larson, Earl, & Henson, 1976).

Kahan et al. (1985), in reviewing the Eaton and Neff (1978) study, as well as an earlier study on turbulence among tank crew members (Eaton, 1978) take issue with the conclusions claimed for those studies. They point out that the data actually lend support to the conclusion that only position familiarity (experience) among drivers and tank commanders appears to have a consistent effect on gunnery performance. Goodacre (1953) similarly found that stability was not significantly higher among proficient rifle squads.

Leadership. The quality of leadership in units has been studied as a factor or antecedent of unit readiness. Simonton (1980) examined over 300

major battles throughout history, searching for determinants of victory and casualty ratios. Among the predictor variables were individual characteristics of the two competing generals (e.g., years of experience, victory experience, and age) and situational variables (e.g., army size, home defense, divided command, and calendar year). He found that he was able to predict victory in 71 percent of the battles using just four variables, three of which were individual characteristics: differences in years of experience between the competing generals, difference between the generals in consecutive encounters won prior to the target battle, taking of the offensive, and having a divided command.

A similar study conducted at the U.S. Military Academy (DA Chief of Staff, 1984) examined over 200 examples of combat leadership. In none of the cases did a unit in combat overcome the deficiencies of its leader; in almost all cases the leader overcame unit deficiencies and various other problems (e.g., unclear mission definition; enemy physical and morale superiority; troop, training, and equipment deficiencies; weather and terrain conditions; unreliable superiors and subordinates). The five critical characteristics of combat leadership, that is, those which were absent in leaders of defeated units, were terrain sense, imaginative tenacity, audacity, physical health and confidence, and practiced and practical judgment. Only the first of these five is a learned technical skill, while the other four are personal characteristics of effective leaders (or rather, leaders of effective units). The report concludes that although technical competence is important, it is not as important as an

appreciation of the capabilities of all the technological devices at the leader's command.

Various studies have recognized the multidimensionality of leadership, both in terms of required activities and associated technical competencies (Gilbert, 1975; Graham & Black, 1985; Henriksin, Jones, Hannaman, Wylie, Shriver, Hamill, & Sulzen, 1980; Smith, 1978), and in terms of leader characteristics (Griesemer, 1980; Griesemer & Hart, 1981; Mumford, Yarkin-Levin, Korotkin, Wallis, & Marshall-Mies, 1986; Wallis, Mumford, & Korotkin, 1986; Streufert, 1986).

Sterling (1984) found that leaders' interpersonal orientation was more highly related to subordinates' satisfaction with the Army than was leaders' task orientation, and that interpersonal orientation became more highly associated with subordinate morale at higher levels of leadership within the unit. However, leaders' task orientation seemed to become more highly associated with unit performance, as perceived by subordinates, at higher levels.

O'Brien and Owens (1969) used general ability scores of designated leaders in groups to predict group performance, but found no significant correlations. The absence of a relationship may be attributed to either the conclusion that general ability is not correlated with performance on the particular tasks posed to the group, or to the conclusion that the leader had no clear function or responsibility in the task.

To address both of these limitations, Kabanoff and O'Brien (1979) performed a study to investigate the relationship between creative ability of the leader and group performance on creative problems; only the designated leader was given the task instructions. In general, groups with high-ability leaders performed better than groups with low-ability leaders. However, further examination revealed that the relationship holds up only for coactive tasks, that is, tasks where group members participated independently; on interactive tasks, where members worked together, ability of the leader did not affect group performance.

Fiedler and Leister (1977) and Fiedler, Potter, Zais, and Knowlton (1979) constructed and tested a model that determined the circumstances under which leader intelligence should and should not be correlated with group performance. They consistently found that, under conditions of stress with a senior officer, leader intelligence was not correlated (or even negatively correlated) with group performance, while under low stress conditions, performance was strongly positively correlated with intelligence. Experience served as a mediator, to enhance the positive relationship between intelligence and performance, or to ameliorate the low and negative relationships.

Fiedler (1986) brought together the results of three studies conducted on highly disparate subject populations, under different working conditions. (The studies reviewed were Blades & Fiedler, 1976; Bons & Fiedler, 1976; and Fiedler, O'Brien, & Ilgen, 1969.) The theory under investigation pronounced that: "... intellectual abilities of the leader cannot affect the

performance of the organization or group unless the leader (1) directs the group, (2) works in a relatively stress-free environment, (3) has the support of the group, and (4) the task requires intellectual effort" (p. 544). Only the third of these conditions was not supported by the data.

Stogdill's ambitious review of the leadership literature (1974) examined studies of leader behavior and styles, among which were democratic/autocratic style, permissive/high-control style, person- vs. task-orientation, leader-follower social distance, and participative/directive patterns of leadership. His conclusion was that only social distance was consistently and reliably related to group performance (greater distance linked to higher performance). The directionality of this finding is open to discussion.

It is generally assumed that unit performance is at least to some degree dependent on the quality of leadership. However, when leadership is evaluated in terms of its results (i.e., performance of the unit), then the leadership behaviors which should be promotive of group performance and the performance itself are inextricably confounded; the issue is exacerbated when leaders are evaluated by subjective ratings of observers, superiors, or subordinates (Kahan et al., 1985). Furthermore, the studies of leadership often fail to distinguish between leadership behaviors and leader characteristics (ability and personality). Finally, without knowing about task requirements, environment structure, and group cohesion, while simultaneously studying leader behaviors and leader characteristics, the

construction of theories of the relationship between various leadership factors and group performance cannot proceed in a coherent fashion.

Team Performance. Research reported by Chapman, Kennedy, Newell, and Biel (1959) and by Finley, Rheinlander, Thompson, and Sullivan (1971) supports the position that the effectiveness of larger military units is in part determined by subordinate team performance. However, conflicting results have been obtained on the factors^s that modify or enhance the effectiveness of teams, possibly due to a lack of consistent definition of teams, team characteristics, and team performance (Nieva, Flieshman, & Rieck, 1978; Wagner, Hibbits, Rosenblatt, & Schulz, 1977). ARI initiated a research program to examine the characteristics that differentiate teams from collections of individuals, in order to determine if and when team skills make a difference in the effectiveness of larger military units, and to develop methods for team training and team performance measurement. Dyer, Tremble, and Finley (1980) identified various types of Army teams and examined team training needs, as reported by team leaders; Hall and Rizzo (1975) similarly reported on the state of knowledge regarding Navy tactical team training. Shiflett, Eisner, Price, and Schemmer (1985) continued work on the taxonomy of team functions developed by Nieva et al. (1978), toward the eventual goals of measuring and describing team performance, developing and training teams, predicting team performance, and designing teams to optimize team performance.³

³ Again, we hesitate to delve too deeply into the area of team training and team performance, because ARI is in the process of reviewing proposals for a project on collective training.

Individual Job Performance and Readiness. Finally, unit effectiveness must be seen as due, at least in part, to the individual competencies and characteristics of its members. The review by Kahan et al. (1985) succinctly summarizes the findings:

"A number of studies using general individual ability, individual task proficiency, and the heterogeneity of group proficiency as predictors have shown a common pattern of predictiveness on unit performance. For coactive tasks, the higher the ability of individual group members, or the greater the heterogeneity of the group, the better was performance, particularly in the learning stages of any task. Over a number of studies of coactive tasks, from one-quarter to one-half of the variation in performance quality could be attributable to the ability of the members. The more routine the task, the less greater practice affected ability. On the other hand, with interactive tasks, the effect of ability was reduced, if present at all, and outcomes were much more task-specific. For some interactive tasks, there is a "bottleneck" effect, where performance is more determined by the least-able member, while for other tasks, there is an opposite effect, where the most-able member predominates and determines performance. Which of these effects will obtain depends on the specific nature of the task. For tasks in which members may easily replace each others' roles, the more able members can perform multiple functions, and their ability will determine performance. For tasks in which there is little role flexibility, the least able member determines performance.

"It is almost tautologically true that the higher a person's motivation, the better will be his [or her] performance. However, this generality must be qualified by the research evidence that what motivates individuals to perform in any given task is not obvious and may even be counterintuitive." (pp. v-vi)

The following section presents a summary of the literature on individual readiness.

Individual Readiness

Definition of Individual Readiness

Individual readiness involves the prediction of whether the soldier will go into combat when required and how he/she will perform under combat conditions. Certainly technical skills and motivation aspects, discussed below, will figure largely in any such prediction. We must also consider other factors that may impact on performance in combat.

Kopstein, Siegel, Conn, Caviness, Slifer, Ozkaptan, and Dyer (1986) present a program of systematic human resources conservation, designed to meet the demands of continuous operations and prevent intolerable levels of performance degradation under those conditions. Although they present no rationale or background for the development of the program, the description of likely combat conditions and their effects on soldier performance are convincing and frightening. They state:

"Continuous combat depresses certain critical human abilities. When these abilities are reduced, performance of combat tasks is degraded. These tasks are no longer performed as quickly or as well as required. After 48 hours, a total loss of sleep becomes very damaging. Even during the first night of combat, visibility is reduced and the normal wake/sleep cycles are upset. Combat is also accompanied by stress, threat to life, noise, and time pressure. Though essential for endurance, sheer determination alone cannot offset the combined, mounting effects of these adverse factors" (pp. 6-7).

They show the expected performance decrements expected in different duty positions and for different tasks. In general, performance on tasks with a heavier mental load degrades faster than performance on tasks that are primarily physical. The strategies proposed for soldier resources conservation are proposed in the areas of leadership, training, development

of coping skills, physical fitness, commitment and dedication, and resource management. They emphasize the need for conscientious and effective preparation, for maintaining the integrity of the proposed program, and for commitment to implementing the program on a continuous basis.

Perhaps the model proposed by Kopstein and his colleagues should be the competing model against which the family strength model ought to compete. Perhaps someday it will. However, for now, it is interesting to note that several of the areas included in their program -- leadership, training, physical fitness, and commitment -- are included in the thinking in this model.

The Army currently includes in its overall training policy various exercises that are designed to give units simulated combat experience. The National Training Center in Fort Ord, California maintains an "enemy" force against which combat units are pitted in simulated battles. Although how well the unit does at NTC is of obvious interest, the primary purpose of the experience is training: to allow soldiers to test themselves in combat. It is so realistic that people really die there.⁴

Measurement of Individual Readiness

Performance under adverse conditions is consistently judged as one of the most important aspects of performance (Sadacca & Campbell, 1985). In

⁴ Once again, we are in the position of purposely avoiding in-depth coverage. ARI has just begun a project at NTC to determine predictors of NTC performance, in the process of which valid and reliable criteria for performance will be defined.

the absence of a wartime scenario under which to measure soldiers, one surrogate scale that has been developed is the Combat Performance Prediction Scale (Campbell et al., 1987). Based on critical incidents, the scale was designed to tap five dimensions of combat performance: cohesion/commitment, self-discipline/responsibility, mission orientation, technical/tactical knowledge, and initiative. Factor analysis of data collected on soldiers in 19 jobs led to a more parsimonious set of two dimensions: effort, skill, and dependability under stressful conditions; and failure to follow instructions and lack of discipline under stressful conditions.

The soldier's readiness to deploy, to be able to perform well under combat conditions, and to remain committed to the unit's mission is also affected by his/her home or family situation. In a DoD survey on living overseas, conducted by the Navy Personnel Research and Development Center, over half of the 17,000 service members said that living conditions affected their work; 57% of those who reported an effect said that it was negative (Stars & Stripes, October 26, 1985). A study by the Medical Research Unit - USAREUR (Stars & Stripes, March 1, 1984) found one in five recently arrived soldiers said that they would take care of their family first if war broke out, rather than reporting to their units immediately. After six months in USAREUR, the percentage fell to 9%. Whether this reflects increased confidence in the Army's evacuation plans, or whether it reflects a "settling" of anxieties concerning the immediacy of war is not clear. And there is no criterion behavior against which to measure these reported intentions.

Another study (Ozkaptan, Sanders, & Holz, 1986) revealed that the majority of all respondent groups indicated that the fear that family members might get caught in war was much worse than they had anticipated. Fewer than half of the respondents thought that the Army's Noncombatant Evacuations program would protect their families, and the percentage was lower among higher ranks.

The same survey items that were used in the ARI Army Family Survey (Ozkaptan et al., 1986) will be of use in assessing these attitudes concerning readiness. Other items on the survey cover the soldier's perception of spouse readiness in terms of both attitudes and behavioral manifestations (the knowledges, skills, and abilities required to cope with the service member's absence).

Summary

The literature on individual and unit readiness provides a wealth of indicators, and a dearth of coherent, comprehensive definition. No study was found which investigated or adequately theorized on the complex interrelationships among the many components of readiness. This is an area which cries out for coordinated study, which may be beyond the scope of the Family Project.

At this point, we are forced to conclude that survey data and records data will be the most likely vehicles for assessing readiness. At the unit level, the impressions of commanders and staff NCOs regarding readiness

should be supplemented with records data on turbulence, inspection results, program implementation, etc. Because of the anticipated difficulty in obtaining certain of the records, and uncertainty concerning their reliability, we do not feel that they hold great promise as measures of readiness. However, aggregated individual readiness data, which will also be used in assessing unit readiness, are seen as conceptually valid, reliable, and accessible.

Individual readiness itself will be measured through a combination of indicators of performance (tests, ratings, and records data), predicted performance, and soldier survey data. Much of the thinking regarding individual readiness has included consideration of spouse readiness, and (more specifically) the soldier's perceptions of spouse readiness. Therefore, surveys should be directed toward coverage of these areas. (Spouse readiness is discussed in more detail below.)

DEFINITION AND MEASUREMENT OF DETERMINANTS OF READINESS

Job Performance

Individual readiness is a function of the soldier's attitudes and perceptions, as well as his/her job performance. While readiness itself must be seen as a prediction of performance under extreme conditions, the attitudes, motivational aspects, technical proficiency, and day-to-day behaviors of the soldier give us much of the information on which those predictions are based.

Definition of Job Performance

Job performance refers to the soldier's ability and willingness to perform the duties required of him or her. Ability is purely job proficiency, apart from affective components such as motivation, and includes proficiency on common tasks (required of all soldiers, tasks such as basic first aid and individual weapons maintenance and firing), as well as on the tasks specific to the soldier's job or duty assignment. These are delineated in the Soldier's Manual of Common Tasks, the job-specific Soldier's Manuals, and the Army Occupational Survey Program. For NCOs, proficiency on supervisory/leadership dimensions (such as training and developing, informing, organizing and monitoring, and showing consideration and concern for subordinates) is included. For officer job descriptions, the Programs of Instruction for the Officer Basic Courses and the Advanced Officer Courses will be the primary source, along with results of ARI's Leadership Dimensions Survey when they become available.

The affective component of job performance is the soldier's willingness to perform his or her required duties whenever and wherever required. It is reflected in the soldier's day-to-day performance by such factors as effort, emergent leadership, self-control and integrity both at work and off-duty, and physical fitness and military bearing.

The technical proficiency of soldiers, their ability to perform the required individual tasks, is a component of job performance. This is a statement that is not in need of defense. Although the Army makes a distinction between common tasks and job-specific tasks, the distinction exists primarily for the purpose of the publishing of Soldier's Manuals, which list the required tasks and the conditions, steps, and standards for performance. All soldiers are responsible for all tasks in the common task manual; each soldier is also responsible for all tasks in the manual distributed for his/her job. Thus the job description for each soldier is delineated at a level of detail that is probably unparalleled in the civilian sector.

Beyond the specific task requirements of jobs, however, is a larger concept of soldier effectiveness. This concept includes behaviors or elements that are relevant for soldiers in any job. One conceptual model of soldier effectiveness (Borman, Motowidlo, Rose, & Hanser, 1985) proposed that being a good soldier involves more than just performing the job in a technically proficient manner. Three constructs of effectiveness were posited: organizational commitment, organizational socialization, and morale. Organizational commitment refers to the strength of a person's

identification with and involvement in the organization, and incorporates elements of acceptance and internalization of the organization's values and goals, motivation to exert effort toward the accomplishment of organizational objectives, and intentions of staying in the organization. Socialization refers to the process by which the individual acquires not only job-related skills, but also patterns of behavior with superiors, peers, and subordinates, and the attitudes, beliefs, and values that are in line with organizational norms. Morale involves feelings of determination to overcome obstacles, confidence about the likelihood of success, exaltation of ideals, optimism even in the face of severe adversity, courage, discipline, and group cohesion. The combination of morale and commitment results in a motivational category called determination, reflecting the "will do" aspects of behavior. Morale and socialization lead to teamwork, or effective relationships with peers and the unit. Commitment and socialization together give rise to allegiance, the acceptance of Army norms with respect to authority, and adherence to orders and regulations.

Further refinement of the model, using critical incidents generated by Army officers and NCOs, the subsequent development and administration of behaviorally anchored rating scales, and factor analyses of ratings, led to a slightly different conceptualization of soldier effectiveness (Borman, Pulakos, & Motowidlo, 1986). Three factors were found: job skills and motivation, comprising technical knowledge, leadership, effort, self-development, and maintaining equipment; discipline, comprising following regulations, self-control, and integrity; and personal appearance,

comprising military appearance and physical fitness. These three factors were supported by the data on soldiers in 19 different jobs.

When these Army-wide dimensions ratings data were analyzed along with job-specific ratings, knowledge tests, and hands-on tests (described below), and with administrative measures (e.g., awards, disciplinary actions), a five factor solution emerged that was supported in nine Army jobs for which data were collected (Wise, Campbell, McHenry, & Hanser, 1986). The three Army-wide dimensions were modified slightly, to form three constructs labeled effort and leadership, personal discipline, and physical fitness and appearance; the two additional factors were labeled general soldiering knowledge and skill, and job-specific technical knowledge and skill.

These five components form the model of soldier performance. They reflect both the "can do" and the "will do" aspects of soldier behavior. Workshops were conducted among officers and NCOs in 19 Army jobs to obtain importance judgments regarding how to weight the performance constructs to form an overall composite index of performance for each job. The results revealed some differences in the relative importance of the constructs across the jobs (Sadacca, Campbell, Wise, & White, 1987; Sadacca, DeVera, DiFazio, & White, 1986). In general, the job-specific technical skills construct received the highest weight, and the military appearance and physical fitness construct received the lowest weight. However, the mean weights assigned to the separate constructs varied significantly across jobs.

These constructs, suitably weighted, are to serve as criteria for selection and classification models being developed by ARI (and its contractors). Another part of the effort involves development and testing of a similar model of performance for junior NCOs. Preliminary job analysis in nine Army jobs indicates the presence of certain supervisory job elements. Whether the model developed for first term soldiers, described above, will also be supported among higher level enlisted personnel, remains to be seen.

Measurement of Job Performance

Measures of individual job performance have taken a variety of forms. Uhlaner and Drucker (1980) discuss trends in development and use of performance measures to meet the need of the Army. They present examples drawn from ARI research and development programs, including school grades, ratings, and performance tests. Currently, in the selection and classification work for the Army, ARI is using hands-on work sample tests, job knowledge tests, training achievement tests, behaviorally anchored rating scales for peers and supervisors, and various administrative records (awards, disciplinary actions, promotion rates). (The development is summarized in Campbell, Ford, Rumsey, Pulakos, Borman, Felker, DeVera, and Riegelhaupt, in preparation.)

That project is part of a larger Joint-Services Job Performance Measurement/ Enlistment Standards Project, addressing the selection and classification of enlisted personnel in all four services of the military (Wigdor & Green, 1986). Each of the services is developing hands-on tests.

The Air Force is developing interview tests of job performance, using task-specific structured interview formats. The interviews are being combined with hands-on test in a procedure called walk-through performance testing. Computer-based and paper/pencil simulation tests, based on artificial representations of work-related stimuli, are being developed by the Navy. Paper/pencil knowledge tests that the Army is using are unusual in being very closely tied to job tasks, so that the job knowledge assessed will be concrete and procedural rather than general or theoretical. Finally, all of the services are developing a full array of rating forms (supervisor and peer, job-specific and general) for each job studied.

The Army's Skill Qualification Testing (SQT) program has been in use since 1976. At that time, it consisted of hands-on work sample tests, job knowledge tests, and performance certification tests. The hands-on and knowledge tests were tied to specific job tasks, and were similar to the tests used by the Army in its Joint Services Project efforts. The performance certification component was designed to be used for tasks which could not be tested under simulated testing conditions (e.g., lay a road bed), because of the expense or time involved; for tasks in this component, soldiers would receive "credit" from their supervisors if they had performed the task on the job. Since 1976, the performance certification component was dropped. A second program of testing was implemented, the Common Task Test, which includes hands-on and knowledge tests of the common tasks. The SQT now covers only job-specific tasks, and is presented only in a written test mode.

in the civilian sector, much of the work on job performance measurement has been under the more specific heading of performance appraisals. [More to come. Also on methods involving assessment centers and related techniques, which are probably beyond the resources of the project.]

Spouse Readiness

The concept of spouse readiness is a relatively new term, coined by military policy makers and researchers to acknowledge the importance of the military family to the successful fulfillment of the Army's overall mission. A positive association has been found between pre-existing family problems and neuropsychiatric breakdowns on the battlefield (Noy, 1978). In light of this finding, the inability of the spouse to manage the family in the military member's absence could affect the military member's individual readiness. Additionally, younger enlisted soldiers are more likely to worry about their families during deployment (Hunter, 1982), thus impairing both individual and unit readiness. Family problems which remove the soldier from the field also affect readiness in that a unit's ability to conduct training is diminished when the unit cannot field its full complement of troops; a unit loses all capacity to train effectively when its strength falls below 80 percent (Sorley, 1980). Thus, a plausible link exists between family support, aspects of employee functioning, and workplace performance (Statuto, 1984).

Given the importance of the family, then, it can be concluded that just as soldiers must be prepared for immediate deployment, the military spouse must be prepared to assume the role and duties of household head to ensure family functioning during deployment. But, as with individual and unit readiness, spouse readiness cannot be measured in the absence of deployment requirements; but it is reflected in the behaviors and attitudes of the spouse under normal military living conditions, as well as during times of

less normal (but not emergency) demands.

Definition of Spouse Readiness

The behaviors and indices that serve as indicators of spouse readiness can be formulated in a fashion which is parallel to the dimensions of individual soldier job performance: skills, exercise of leadership and effort, personal discipline, and physical fitness. Skills, in the spouse's case, are seen as the ability to cope in the event of the soldier's deployment. Exercise of leadership and effort appears in the spouse's behavioral adaptability, the ability to react to the demands of the situation after deployment. Personal discipline in the spouse refers to emotional adaptability and coping. Finally, physical fitness is seen as the spouse's ability to maintain a high level of physical well-being in the face of increased demands and stress.

The first dimension of spouse readiness, preparation for military member's deployment, concerns the spouse's ability to obtain power of attorney in the military member's absence, and whether or not the spouse has access to important legal documents, such as the house deed or mortgage, birth certificates, insurance policies, and car registration. Behavioral adaptability, the second dimension of spouse readiness, refers to the spouse's ability to locate and obtain support and access services when needed, such as medical care and childcare, to handle finances, and to sustain the family's daily needs, such as cooking and laundry. Concerning the spouse's ability to locate services, in their analysis of data collected

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from the 1985 DoD Survey of Military Spouses, Griffith, Doering, and Mahoney (1986) reported that a substantial proportion of spouses responded that they did not know whether certain Army services were available. For most services, roughly one-third to one-half reported that they did not know whether the service was available. To some extent, however, it appeared that lack of knowledge concerning a particular service was correlated with lack of need (e.g., special needs programs).

Emotional adaptability, the third dimension of spouse readiness, refers to the spouse's ability to make decisions for the family. The spouse must maintain the emotional stability of the family in the military member's absence by managing the day-to-day minor stresses and problems that arise, and by coping emotionally with the possibility that the military member is in combat. Research indicates that emotional adaptability is increased when the spouse perceives the existence of supportive network of friends/relatives (Lewis, 1984; McCubbin & Lester, 1977). The last dimension of spouse readiness concerns the spouse's physical fitness, or the ability of the spouse to function physically during the military member's deployment. A chronic illness or medical problem could impair the spouse from functioning effectively during emergencies. Additionally, drug or alcohol dependency could limit coping abilities.

Spouse commitment can be defined as: a) the spouse's acceptance of the goals and values of the Army and/or specific Army-related constituencies; b) the spouse's willingness to exert effort to support the member in his/her efforts to meet those goals; and c) the spouse's desire to remain associated

with the Army and/or with specific subgroups within the Army. Thus, it can be hypothesized that spouse commitment is highly intercorrelated with spouse readiness. Spouse commitment can almost be viewed as a dimension of spouse readiness because a spouse who does not accept the values of the Army and is unwilling to support the military member to meet these goals would be least likely to be prepared for the military member's deployment. Results from military studies have indicated that spouse support, one aspect of spouse commitment, is a strong predictor of reenlistment intention, which in turn affects readiness (Bowen, 1986; Orthner & Pittman, 1986; Szoc, 1982).

Measurement of Spouse Readiness

Just as the conceptualization of spouse readiness is newly formulated, previous research has not operationalized or measured spouse readiness specifically. Questions have been included in recent surveys that address access to important documents and power of attorney; however, most surveys include questions that measure spouse satisfaction with Army life and programs. Satisfaction is not included as a dimension of spouse readiness due to its high intercorrelation with family life satisfaction. Thus, for the purposes of this research, measures of spouse readiness should be expanded to cover the other dimensions discussed -- behavioral adaptability, emotional adaptability, and physical well-being.

Commitment to Army Life

The preliminary model to be tested as part of the present research program includes a variety of work- and nonwork-related variables which have been found to have, or are hypothesized to have an impact on commitment. There is also an hypothesized relationship between commitment and individual and organizational readiness. In further specifying the model, it is important to define, both theoretically and operationally, the meaning of the term commitment. A great deal of effort has been expended by organizational theorists and researchers in this regard, with results which can charitably be called a mixed bag. A primary problem which has been addressed by a number of authors (Morrow, 1983; Reichers, 1985) is the plethora of conceptualizations and definitions of terms which can all be legitimately characterized as forms of work place commitment. In fact, Morrow, citing 29 such conceptualizations, called for "a moratorium on new commitment concepts until some evaluation of existing perspectives has been completed" (p. 487).

Definition of Commitment

The variety of commitment definitions can be characterized along a number of different dimensions. For instance, Morrow (1983) discusses conceptualizations which are based on individual values, those which focus on the career or job commitment/salience/involvement, and those where the primary focus is the organization for which the individual works. Another dimension, one of potential importance in the present discussion, concerns

the temporal and situational stability of the various forms of commitment. For instance, work ethic--the degree to which an individual feels that personal worth is achieved through work (Blood, 1969; Mirels and Garret, 1971)--is seen as a relatively enduring trait brought about through cultural and social influence. Similarly, career salience (Greenhaus, 1971), the overall importance of career in one's life, is seen as a relatively stable characteristic. This concept has some overlap with Dubins's notion of central life interest or CLI (job, nonjob or neutral orientation), and Lodahl and Kejner's (1965) concept of job involvement. To some degree the measurement of these conceptualizations reflects individual characteristics or traits, rather than the outcome of environmental effects on work commitment. Presumably, if one is job-oriented, this will generally be the case across work situations. If one endorses the work ethic, this should be only minimally influenced by situational variables.

In regard to the proposed model, therefore, a number of the conceptualizations of commitment would more properly be classified in that segment of the model dealing with individual differences. If the central interest is in the impact of work and nonwork related variables on commitment and level of commitment's subsequent impact on readiness, variables such as CLI, work ethic, and career salience would be characteristics of individuals to be controlled for in analyzing the impact of situational and organizational variables on commitment to the Army.

Given this distinction, the conceptualization of commitment most appropriate for this discussion would appear to be that of Porter, Steers,

Mowday, and Boulian (1971). Their concept of organizational commitment offers a number of advantages over the definitions discussed above. Again, commitment is seen, not as an individual trait which is more or less independent of environmental factors, but rather as the outcome of a variety of influences. This corresponds to the framework outlined in the preliminary model. Furthermore, as highlighted by Morrow (1983), organizational commitment is the most conceptually distinct of the multitude of definitions which have been offered for this concept. Finally, as will be discussed below, measures of organizational commitment have been developed and tested, evidencing acceptable psychometric qualities. The same cannot be said for the bulk of the conceptualizations of this concept.

As defined by Porter, et. al. (1974), organizational commitment has three facets: An acceptance of an organization's goals and values; a willingness to work towards the attainment of those goals; and a desire to remain part of the organization. This definition has received widespread acceptance, but it has also been criticized for failing to account for the multi-faceted structure of many organizations. Reichers (1985) argues that the monolithic picture of organizations imparted by this definition is false, and that it must be recognized that commitment to an organization may reflect commitment to a variety of its constituencies (Pennings and Goodman, 1979). On the surface, this would appear to be particularly relevant in the Army, where commitment to the service as a way of life may reflect a commitment to the nation, to its leaders, to the Army in general, and/or to some subgroup within the Army such as a division or unit.

A distinction which is implicit in the definition of commitment offered by Porter, et. al. is that between attitudinal and behavioral commitment (Mowday, Steers, and Porter, 1979). Attitudinal commitment is reflected primarily in the first element of the definition, identification with organizational goals and values. Behavioral commitment evidences itself in the carrying out of activities which promote those goals. This distinction is important in that there is evidence that the nature of the relationship between these two elements is recursive, i.e., that behaving in ways which conform to organizational values or goals strengthens the belief in, and commitment to those goals (O'Reilly & Caldwell, 1980).

As the research cited below will indicate, investigations of organizational commitment have primarily taken place in civilian contexts. In examining commitment to the Army, the substantial differences which exist between being a member of the military and being a member of a civilian work organization must be taken into account. As highlighted by Segal (1986), military membership may require "frequent moves, isolation from extended family, frequent and sometimes prolonged periods of separation of service members from their spouses and children, residence in foreign countries, and the potential for violent injury and death" (pg. 184). Because of the degree to which military membership can effect the lives of those who join, as well as the lives of their immediate families, commitment as defined here is not simply to the Army as an institution, but rather to the Army as a way of life. This is a broader view of commitment than is typically taken in the civilian literature, reflecting the increased extent to which military

membership has an impact on ones life beyond that experienced by members of civilian organizations.

Segal (1986) also points out that "...most pressures affecting [military] families are exerted indirectly through claims made on the service members. ...the family is expected to adapt to the greediness of the military institution and support the service member in meeting military obligations" (pg. 13). In a very real sense, then, commitment to Army life involves not only the individual member, but also those in his/her immediate family. In defining family commitment, allowance must be made for the indirect nature of the Army-family member relationship.

The preceding discussion yields the following definition of commitment:

For the member, commitment is defined as: a) an acceptance of the goals and values of the Army and/or specific Army-related constituencies; b) a willingness to exert effort to meet those goals; and c) a desire to remain a member of the Army and/or specific subgroups within the Army.

For the member's family, commitment is defined as: a) an acceptance of the goals and values of the Army and/or specific Army-related constituencies; b) a willingness to exert effort to support the member in his/her efforts to meet those goals; and c) a desire to remain associated with the Army and/or with specific subgroups within the Army.

Measures of Commitment

In the late sixties and early seventies a number of measures of organizational commitment were developed. These measures assessed a variety of dimensions of commitment, including identification with and general attitudes towards the organization, seniority, etc. For the most part the scales were short, with little in the way of validity or reliability data reported. In recognition of this fact, Porter and colleagues (Porter, et. al., 1974) developed what has become the primary measure of organizational commitment, the Organizational Commitment Questionnaire (OCQ).

The OCQ is a 15-item instrument, designed to assess individual perceptions of loyalty to an organization, willingness to exert energy to achieve organizational goals, and acceptance of its values. Seven-point scales are used to assess these dimensions (strongly agree to strongly disagree), and the wording of six of the items is reversed to prevent response set. Internal consistency reliability of the questionnaire was reported between .82 and .93 over four administrations using the same subjects. Construct validity data reported included correlations with intention to leave the organization of -.45, and intended length of service of .51. A 9-item short form of the OCQ has also been developed, with the six items with reversed wording eliminated.

Reichers (1985), referring to the dominance of the OCQ as a means of assessing organizational commitment, indicates that it, "has in a sense

become 'the' approach to organizational commitment" (pg. 467).

Modifications in the way in which the instrument is administered and/or in its contents would be required to reflect the issues of multiple constituencies and family commitment. Such modifications might include: 1) multiple administrations, each carried out in reference to some relevant constituency (i.e., Army, Company, unit); 2) prior identification and definition of the constituency of concern; 3) rewording of items to reflect the indirect nature of the family's commitment to Army life.

Organizational commitment--antecedents and outcomes

The bulk of the literature regarding organizational commitment as a theoretical construct has focused on civilian samples. This may explain why extra-work variables have generally not been included as possible antecedents to commitment. This is based on the assumption that factors outside of the work arena have little or no impact on job satisfaction. There is a growing body of literature which supports the contention that job satisfaction has a significantly greater impact on life satisfaction than does life satisfaction on job satisfaction (Chacko, 1983; Rice, Near, & Hunt, 1979; Rousseau, 1978). As discussed earlier, however, this assumption is unlikely to hold up in the military environment, where the distinction between work and non-work is much less apparent. Therefore, the discussion which follows will focus first on those job-related variables which have been found to function as antecedents to organizational commitment.

In her 1985 review of organizational commitment, Reichers provides a breakdown of the bulk of the civilian literature in this area. Previous studies have focused on a wide range of career fields (teachers, MBAs, engineers, newspaper employees), while testing a variety of antecedents. Those which have been found to significantly correlate with commitment include job satisfaction and its components (e.g., need satisfaction, challenge, prestige), individual characteristics (age, education, need for achievement), and level of investment in the job (tenure). This last factor may be a function of the recursive nature of attitudinal and behavioral commitment discussed previously.

One study encompassing a number of these variables was conducted by Steers (1977). Three sets of antecedents to organizational commitment were examined: the personal characteristics cited above; job characteristics, including challenge, feedback and social interaction; and work experiences such as organizational dependability and realization of expectations. Multiple regressions were conducted including these factors as predictors of commitment, with results indicating that, in combination, they were able to account for 65% of the variance in the OCQ.

Martin and O'Laughlin (1984) examined the antecedents of commitment in a military context. Participants in this study were members of one of two Army reserve battalions (total n = 2700). The battalions included combat engineers, and noncombat medical and nonmedical reservists. Respondents completed a questionnaire which included a 36-item assessment of eight organizational variables: variety, communication, promotion, compensation,

cohesion, discipline, training and time management. In addition, six items were included to assess spouse attitudes towards military schedule, conflict between military and civilian careers, and intentions of remaining in the reserves. Also included were five items measuring job satisfaction, along with the short form of the OCQ. Results indicated that overall job satisfaction was the strongest predictor of commitment, followed by intent to stay in the reserves. The only other variable to consistently emerge as a predictor was group cohesion. Because the respondents in this study were part-time members of the Army, all of whom presumably had full-time careers outside the reserves, these results are difficult to generalize to the Army as a whole.

It would appear, then, that a number of factors may operate as antecedents to organizational commitment. These would include individual characteristics, characteristics of the organization and of individual jobs, and investment in the organization. However, as pointed out by Reichers (1985), "...though the literature is fairly clear with respect to the outcomes of commitment (i.e., decreased turnover and other forms of withdrawal), the antecedents of commitment seem to be much more varied and inconsistent" (pg. 467).

A review of the organizational commitment literature indicates that the major outcomes associated with commitment include desire and intent to remain in the organization, as well as actual retention and attendance (low absenteeism). Steers (1977) conducted a study of hospital personnel and found that commitment as measured by the OCQ correlated significantly with

desire to remain with the organization ($r = .44$), intent to remain with the organization ($r = .31$), and turnover ($r = .17$). Correlations between commitment and performance variables, however, were not significant.

Research on outcomes of commitment (as defined here) in a military setting is not abundant. Hom, Katerberg and Hulin (1979) compared three approaches to the prediction of turnover among a sample of National Guard members. The approaches were Fishbein's behavioral intention model (Fishbein & Ajzen, 1975), job satisfaction, and Porter's concept of organizational commitment (Porter, et. al., 1974). The sample consisted of 228 National Guard members who were within six months of the end of their term of service. A follow-up was carried out to determine actual reenlistment behavior. It was found that organizational commitment had a correlation of .55 with reenlistment behavior.

It seems clear, therefore, that the relationship specified in the preliminary model between commitment and retention behavior has been supported by past research. It should be noted, however, that when commitment is measured by the OCQ this relationship is somewhat tautologous. A key dimension of commitment as defined by Porter, et. al. (1974) is desire to remain with the organization. This dimension is reflected in a number of the items of the OCQ, suggesting another interpretation of the results described above: the best predictor of turnover is expressed likelihood of leaving. This would certainly be a more parsimonious explanation of these findings.

The other major outcome of commitment as specified in the preliminary model is job performance, the hypothesis being that greater commitment to the organization would result in more effective individual performance. The results of the research conducted to date are somewhat ambivalent in this regard. In her review, Reichers (1985) only identified two studies where significant correlations were found between commitment and performance. Angle and Perry (1981) conducted a study of employees from 24 bus companies. Along with commitment (as measured by the OCQ) they collected data on tardiness, absenteeism, turnover, and operating expenses--an indicator of organizational effectiveness. Although voluntary turnover was significantly related to commitment, the other variables were not. Van Maanen conducted a longitudinal study of police academy recruits ($n = 136$). The dimensions included were commitment as measured by the OCQ, academic performance, and supervisor performance ratings. Data were collected at 30-day intervals over a five month period. It was found that although commitment decreased over the period, significant positive correlations did exist between supervisor ratings of recruit performance and commitment as assessed by the OCQ. No such correlations were found for academic performance and commitment, however. Larson and Fukami (1984) also examined the relationship between commitment and supervisory performance ratings with their sample of newspaper employees ($n = 114$). Overall, a significant correlation of .19 was achieved, along with significant relationships between commitment and unexcused absences, as well as voluntary and involuntary turnover.

These results suggest that the evidence of a relationship between commitment and performance is promising, but not yet conclusive. One of the chief issues to be addressed in future efforts in this regard concerns the types of performance measures used. Both studies cited here which uncovered significant relationships employed supervisor performance ratings, which are especially subject to extraneous influences (Cascio, 1982). Confidence in the nature of the commitment-performance relationship would be enhanced if other types of performance measures were employed in future research.

Army Culture Satisfaction

Definition of Army Culture Satisfaction

As indicated in the preliminary model, satisfaction with Army culture is hypothesized to have an impact on desirability of, and commitment to Army life. The concept of organizational culture is one that has been developed relatively recently, and as such there is no widely accepted definition of the term (Ashworth, 1985). Although there are a number of different perspectives which have been taken in this regard, one central element does emerge with some consistency: that organizational culture involves a shared set of values and beliefs which serve to inform and guide individual actions (Smircich, 1983). The role of culture in the organization is to provide a sense of identity for members, encourage social system stability, and, as specified in the preliminary model, foster commitment to the larger organizational entity rather than to one's own agenda (Peters and Waterman, 1982).

Much of the research which has been conducted regarding corporate culture has been carried out using a case study, qualitative approach (see, for example, Deal and Kennedy, 1982). As reported by Croan (1986), "The research has generally been much more anecdotal than rigorously quantitative. No systematic studies within the military were identified in our preliminary research" (pg. 8). Much of the literature reviewed regarding organizational culture consisted of discussions of the nature of phenomenon (Lucas, 1987; Barney, 1986; Smircich, 1983; Gregory, 1983). Some of the issues which arise include whether culture should be considered a

variable or a metaphor (Smircich, 1983), whether culture should be defined in terms of the interpretation of meanings constructed or held by conscious actors or whether it should reflect an unconscious structure of differences (Lucas, 1987), and how "organization" should be defined in terms of level of analysis (Glick, 1985).

It would appear that at the present time the concept of organizational culture is too abstract to allow objective assessment through viable methods of investigation available for the present purposes. What is needed is an effort to identify the relevant values, goals and beliefs relating to work and nonwork which (1) are effected by Army personnel/family policies and practices and (2) potentially impact commitment and readiness. Army culture satisfaction would then be the degree to which individuals perceive that their personal goals/values/beliefs are shared by relevant organizational entities.

Measurement of Army Culture Satisfaction

As was mentioned previously, systematic investigations of Army culture have not been carried out. Furthermore, research focusing on civilian organizations has primarily employed anthropological methodologies which are would be unrealistic given the scope of the present effort. Bowen (1986) describes one attempt to provide a more traditional measurement instrument regarding culture (O'Toole, 1979). A review of this protocol, however, suggests that it can at most provide some guidelines for development. The items included are often inappropriate for the present purposes (i.e.,

"Describe the three most pivotal events that have occurred since the founding of the Army").

Clearly, if Army culture is to be included in the model, instruments will have to be constructed for measurement purposes. As a first step, the relevant dimensions must be identified. That is, the value/goal/belief dimensions which are considered important by the institution, its subunits, and its members must be specified. Indications of this can be obtained from previous research, both in civilian and military contexts (Deal and Kennedy, 1982; Peters and Waterman, 1982; Defense Manpower Data Center, 1986; Woefel and Savell, 1978; Bowen 1985). Once the relevant dimensions have been identified, satisfaction measures can be constructed. A number of measurement issues arise in this regard, issues which are addressed by prior research in the area of life satisfaction. A discussion of a few of these issues follows.

Measures of life satisfaction have generally take one of two forms: global and domain-specific. Two examples of global life satisfaction measures are presented below.

- 1977 Quality of Employment Survey (Quinn & Staines, 1979)

Taking all things together, how would you say things are these days? Would you say you're very happy, pretty happy, or not too happy these days?

In general, how satisfying do you find the ways you're spending your life these days? Would you call it completely satisfying, pretty satisfying, or not very satisfying?

- Near, Rice, & Hunt, 1978

Taking everything into consideration, how satisfied are you with life in general at the present time? Would you say you are: extremely/very/fairly/slightly/not satisfied?

A similar approach is taken to the measurement of life satisfaction in those studies reviewed which focused on members of the military. For instance, the 1985 DOD survey of officer and enlisted personnel included one general and eighteen domain specific satisfaction items. The general item asked respondents to indicate their overall satisfaction with military life, employing a seven-point scale (very satisfied to very dissatisfied). Domain-specific items, using a five-point scale (same end points) sought respondent's evaluations of a range of job, environment, community and economic facets of life in the military.

Woefel & Savell (1978) took a more systematic approach to assessment of Army life satisfaction by first interviewing 116 Army personnel to determine the dimensions which were most often mentioned as satisfying or dissatisfying. A three-part interview was conducted. First an open-ended format was employed asking participants to name problems and advantages of military service. Comments were then solicited about five specific areas: separation from family, PCS moves, recreational facilities, medical/dental care, and financial benefits. Finally, respondents were asked to list the three most beneficial and three most detrimental aspects of Army life. As mentioned above, a similar procedure may well be required to identify the relevant domains of Army culture satisfaction.

One issue which must be addressed concerns the optimal level of specificity in domain assessment. Campbell, Converse, and Rogers (1976)

included three levels of specificity in their quality of life survey. The most general items concerned overall life satisfaction. At the next level respondents were asked to address general domains such as housing, neighborhood, etc. Finally, very specific items were included to assess within-domain concerns (i.e., the size of the rooms in the house, the amount of noise in the neighborhood). After examining the relative ability of the general and specific domain items to predict overall life satisfaction, they conclude that, "...the single-item [domain] summary, despite its lesser reliability, is probably of prime value because of its (1) simplicity; and (2) its likely "coverage" of the domain from the point of view of any given individual" (pg. 495).

Therefore, it seems that the results of prior research indicate that it is necessary to include domain-specific measures of satisfaction along with more general measures. However practical considerations and likely respondent reactions may serve to limit the degree of specificity required.

As Croan (1986) points out, the determination of satisfaction is made relative to other alternatives available to the individual at the present time or in the future. In the parlance of exchange theory (Thibaut & Kelley, 1959), this relative nature can be expressed in terms of ones comparison level, which is the standard one has for a given life domain, and comparison level for alternatives, which are the perceived outcomes associated with alternative courses of action. Satisfaction and stability will only occur when current outcomes are greater than both the CL and the CL_{alt} . When CL is higher, dissatisfaction is experienced. When CL_{alt} is

higher, instability is the result. A number of alternatives exist for measuring relative satisfaction. For instance, Cantril's (1965) self-anchoring striving scale asks individuals to think of the best and worst possible circumstance and to rate their current position relative to them. Campbell, Converse and Rogers (1976) asked respondents to rate their neighborhoods in relation to: previous neighborhoods experienced, the neighborhood they envisioned themselves living in in five years, the neighborhood where they would ideally like to live, and the neighborhoods of relatives, friends and "typical" Americans. In the present case it would be most important to get ratings relative to alternatives perceived to be currently available to the respondent (CL_{alt}), as well as relative to the respondent's ideal situation (CL).

One final consideration which must be taken into account in developing measures of culture satisfaction concerns the need for including domain importance measures in an effort to increase the accuracy of overall satisfaction ratings. Intuitively it would seem clear that if culture satisfaction is a composite of a number of more specific domains, it would be likely that individuals would differ on the relative importance of those domains. To obtain an accurate assessment of satisfaction, then, it would be necessary to weight domain-specific evaluations by some factor reflecting the importance of the particular factor to the individual. There is research, however, which indicates that including importance ratings does not increase the power to predict overall satisfaction using domain-specific evaluations (Campbell, Converse, and Rogers, 1976). This would suggest that the extra time required to derive and complete such measures may not be

worth the effort. In the final analysis this is an empirical question which should be addressed in pretests of proposed instruments.

To conclude, it appears that measures of Army culture satisfaction will have to be derived if this factor is to remain part of the model. This process will need to begin by determining those elements of Army culture which are relevant for the present purposes. Some of the issues to be addressed in the development process include the level of domain-specificity required, the potential need for measures of relative satisfaction, and whether domain-importance weightings need to be obtained.

Job Satisfaction

For the past five decades, job satisfaction has been one of the most heavily researched aspects of organizational behavior. A career represents an individual's entire life in a work setting, and for most people, is a primary factor in determining their overall quality of life. Hoppock (1935) was one of the first researchers who attempted to use attitude scales and survey research methods to measure job satisfaction. Since then, thousands of investigations of job satisfaction and other attitudinal responses to work situations have been reported (Staw, 1984). Some of this work has focused on obtaining information on overall job satisfaction, while other research has focused on the different features of job satisfaction.

Traditionally, job satisfaction and satisfaction with various facets of the job have been measured by simply asking people to rate their jobs or facets of their jobs on a Likert-type satisfaction scale. Recently, a number of different conceptual definitions of job satisfaction have been stated, and this has led to satisfaction being measured in various ways. Because of this, there is a serious lack of good theory about the very meaning of job satisfaction (Wanous & Lawler, 1972). Many of the operational definitions of job satisfaction imply different meanings of what it is to be satisfied. For example, some measure satisfaction in different need areas while others measure satisfaction with more concrete job factors, such as pay and promotion.

Definition of Job Satisfaction

One operational definition of satisfaction states that overall job satisfaction is the sum of job facet satisfaction across all facets of a job. Overall job satisfaction has been viewed as a function of the sum of job facet satisfaction, and there is evidence showing a significant positive relationship, as predicted by this definition (Wanous & Lawler, 1972). Another similar definition operationalizes job satisfaction as a weighted sum of job facet satisfaction.

Job satisfaction has also been defined as the sum of goal attainment or need fulfillment when summed across job facets. Here, goal attainment or fulfillment can be thought of as the response to a "How much is there now" item for a certain job facet. Stemming from this last definition, one can further define job satisfaction by weighting the attainment or fulfillment of any given job facet(s).

A discrepancy definition of satisfaction states that job satisfaction is the difference between responses to a "How much is there now" item and responses to a "How much should there be" item. Any difference between these two items is computed, and then the differences are summed across the job facets for a measure of overall job satisfaction. As in several definitions given above, importance ratings can also be used to weight this operational definition.

A need fulfillment definition of satisfaction states that job satisfaction is the correspondence between the reinforcer system of the work

environment (what the employee receives) and the employee's needs (what the employee would like to receive). Again, importance ratings can be employed to the above definition, offering yet another definition of job satisfaction.

Finally, job satisfaction has been defined as the discrepancy between the importance of a job facet and the perception of fulfillment from a facet. The major criticism of this definition is that an employee's response of high importance and high fulfillment (zero discrepancy) is treated as equal to an employee's response of low importance and low fulfillment (zero discrepancy).

It was first believed, as evidenced from several of the above definitions, that individuals had an overall feeling of liking for a job, ranging from very low to very high. Later, it was learned that a job is not a singular entity but rather a complex interrelationship of tasks, roles, responsibilities, interactions, incentives, and rewards (Locke, 1976). From this overview of various meanings attributed to job satisfaction, we derive our definition of job satisfaction as an emotional, affective response indicating the extent to which an individual derives pleasure from one's job or job experiences (Locke, 1976; Muchinsky, 1983; Warr, Cook & Wall, 1979).

Measurement of Job Satisfaction

The following section describes four major models by which job satisfaction has been measured. Each model provides some explanation of job

satisfaction, yet a complete understanding seems to be beyond the scope of any one model.

Need Satisfaction Models. Need satisfaction models were among the first theoretical frameworks to be applied to the study of job satisfaction. In these models, job satisfaction is regarded as an internal indicator of correspondence, representing the individual's appraisal of the extent to which the work environment gratifies his/her needs (Elizur & Tziner, 1977). The basic assumption of these models is that needs are instinctive, suggesting that people behave as they do in order to satisfy these needs. Need satisfaction models postulate that people have basic, stable, relatively unchanging and identifiable attributes and needs, and that jobs have stable and identifiable sets of characteristics relevant to these needs. Therefore, satisfaction comes as a result of the correspondence between the needs of the individual and the characteristics of the job or the job situation. When the characteristics of the job are compatible with the employee's needs, it is presumed that the employee is satisfied. If the person is unhappy with his/her job, it is because the job is presumably not satisfying his/her needs (Salancik & Pfeffer, 1977).

The theories of Murray (1938), Maslow (1943, 1954), and Atkinson (1964) lay the groundwork for the basic needs satisfaction model, hypothesizing that individuals have a basic tendency to satisfy their various needs in a multitude of ways.

Results of Butler's (1972) comparison study of former company grade, field grade, and general Army officers are closely related to what could be expected from Maslow's theory of need satisfaction. He reported that overall, job satisfaction is greater at each higher level of rank within the military organization. Also, within each of the rank groupings there was a trend for need satisfaction to decrease at each successive higher need in Maslow's hierarchy. The most satisfied needs seemed to be those associated with security, and the least satisfied were those associated with the self-actualization needs.

Herzberg, Mauser, and Synderman (1959) reclassified Maslow's (1943) hierarchy of needs into two categories, with one category reflecting intrinsic motivation ("motivators") and the other category reflecting extrinsic motivation ("hygienes"). According to their two-factor theory, motivators, the content of the job, are critical to job satisfaction while hygienes, the contextual factors of the job, determine job dissatisfaction. Continued research on this model led to the conclusion that satisfaction and dissatisfaction are therefore two distinct dimensions rather than opposite ends of a single continuum. In the normal case, job satisfaction is a transitional or temporary state which prompts some sort of accommodative or adaptive behavior (Seashore & Taber, 1975).

The main criticism of need satisfaction theories is that jobs serve different needs for different people (Strauss, 1974). Need satisfaction models have seldom been able to account for substantial proportions of variance in behaviors or attitudes; they do not give individuals credit for

much adaptability in the pursuit of satisfaction. Individuals still have needs, and jobs still have characteristics. But the theories did not recognize the possibility that perhaps persons have different needs, or alternately, persons look on their jobs for different satisfactions.

Job Characteristics Model. When a lack of empirical support for theories of universal needs became apparent, new hypotheses were formed postulating that different individuals have different needs, or at least, differing strengths of the same needs. Not only were the nature and content of the job seen as variables in determining job satisfaction, but in addition, needs of the individual appeared to play a major role.

The concept of congruence between the individual and the environment was popularized by Lewin (1951), who defined behavior as a function of the person and the environment ($B = f(P,E)$). This approach became known as the person-environment fit (Spokane, 1985) or interactional psychology (Terborg, 1981). The emphasis of this approach is that a continuous and multidirectional interaction exists between personal and situational characteristics; it explicitly recognizes that situations vary in cues, rewards, and opportunities and that people vary in cognitions, abilities, and motivation.

Hackman and Lawler (1971) developed what is now known as the job characteristics theory, while Hackman and Oldham (1975, 1976, 1980) developed the job design model for application of this interactional approach to the study of job attitudes. Hackman and Oldham's job design

model (1976) postulates that an individual experiences positive affect to the extent that he learns (knowledge of results) that he personally (experienced responsibility) has performed well on a task that he cares about (experienced meaningfulness).

The job characteristics theory suggests that positive personal and work outcomes will be obtained when these three critical psychological states -- experienced meaningfulness of work, experienced responsibility for outcomes of work, and knowledge of results of work -- are present. Five core job dimensions exist in order to create these critical psychological states. Meaningfulness of the job is produced by additively combining three of the core job dimensions --- skill variety, task identity, and task significance. Feelings of personal responsibility are produced through autonomy on the job, while knowledge of results is believed to be fostered by feedback from the task itself. The Job Diagnostic Survey (JDS), developed by Hackman and Oldham (1975), is made up of fifteen items designed to measure these five task characteristics, and consists of items written in a seven-point response format (1=low and 7=high). These five job dimensions make up what is called the motivating potential score (MPS) of a particular job.

It is here that the model becomes interactional in that it recognizes that the MPS of a particular job will not affect all individuals in the same way. The relationship between MPS and critical psychological states, and the relationship between these states and affective work outcomes are proposed to be moderated by three factors. These three moderators include

(1) the person's knowledge and skills; (2) growth need strength; and (3) satisfaction with the work context.

Literature on the job characteristics model has generally concluded that an individual's satisfaction with work is more strongly related to task design than to other attitudinal, behavioral, or motivational variables. A recent meta-analysis of 28 studies, reported by Loher, Noe, Moeller, & Fitzgerald (1985), lends support to the job characteristics-satisfaction relationship. As measured by Hackman and Oldham's (1976) Job Diagnostic Survey, a mean correlation of .39 was reported across studies between job characteristics and overall job satisfaction; average correlations for the individual job characteristics ranged from .32 for task identity to .46 for autonomy. Additionally, as evidenced from the results of studies by Loher et al. (1985), we can now state with some confidence that growth need strength (GNS) acts as a moderator of the relation between job characteristics and job satisfaction. They report a correlation of .68 for persons high on GNS between job characteristics and satisfaction, and a correlation of .38 for persons low on GNS.

Methodologically, job characteristics models have been criticized. One criticism is that little progress in instrument development has taken place over the years. The result is that a restricted set of job characteristics and moderators, derived primarily from the original Hackman and Oldham (1975) measures continue to be used. This restricted set of job characteristics and moderators has produced concerns as to how comprehensive this set actually is and how much of the job situation is really covered

(White, 1978). Recent research has tended to focus on expanding the job characteristics model to include additional independent variables and moderators for explaining job satisfaction.

The appropriateness of the multiplicative formula for MPS has also been criticized. Since the development of their first model, Hackman and Oldham (1980) have shown that estimating MPS by summing the scores on the job characteristics items can be as predictive, or possibly more predictive of job satisfaction than the more complex formula.

Additionally, the dimensionality of the JDS has been increasingly questioned. Research employing the JDS reports instability of the factors across samples (Schnake & Dumler, 1985). One explanation for this may be that an individual's job satisfaction influences his/her responses to the JDS, making it difficult for individuals to exclude evaluating their responses in relation to their job satisfaction. As suggested by Schnake and Dumler, if the effects of job satisfaction (affective or evaluative response) are removed from the responses of the JDS, the dimensionality of this instrument may be improved.

Further, Weitz and Nuckols (1953), raise the question regarding validity of direct and indirect questions when measuring job satisfaction. Through their research, they concluded that direct and indirect items correlate with each other significantly, and that direct items do a slightly better job of measuring different areas. Therefore, Weitz and Nuckols argue

that there is no advantage to using indirect items for measuring job satisfaction.

Finally, the basic assumption of the job characteristics models, that job characteristics cause attitudes, is being questioned. According to James and Jones (1980), job satisfaction was reported to be a stronger cause of perceptions than perceptions were to be a cause of job satisfaction. Also, Schnacke and Dumler (1985) reported that individuals' attitudinal responses appear to influence the dimensionality of perceived task characteristics.

Congruency Models. The basic difference between the job characteristics models and the congruency models of job satisfaction is in their measurement procedures. In the congruency models there is a greater focus on the discrepancy between the employee and their environment. Congruency models basically compare employees' perceptions of what they receive from their jobs to a number of different frames of reference.

Porter and Lawler (1969) were among the first to use the congruency approach to job satisfaction. Their assumption was that the larger the discrepancy between what an individual perceives that he/she gets from his/her work and what he/she pursues, the less job satisfaction they would feel.

One of the best known congruency models is Holland's (1973) theory of careers which consists of six occupational types: Realistic, Investigative,

Artistic, Social, Enterprising, and Conventional. This theory suggests that vocational satisfaction, stability, and achievement depend on the congruence between an individual's personality and his/her work environment.

Similarly, Elizur and Tziner (1977) report results which support the hypothesis that the higher the correspondence between vocational needs and job rewards the higher the level of job satisfaction will tend to be.

Spokane (1985) recently reviewed numerous studies generated by Holland's theory. He reported that although large and significant F-ratios were found in most studies, correlations rarely exceeded .25 to .35, with congruence usually accounting for only 5 to 10 percent of the variance in outcomes.

In trying to clarify the relationship between congruence and job satisfaction, Furnham & Schaeffer (1984) conducted a study of 82 full time employed adults. Their results indicated that older persons tend to score higher on congruence and job satisfaction than did younger employees.

Social Information Processing Model. There has been a focus, aside from investigating the job characteristics-job satisfaction relationship through traditional approaches, on studying the determinants of task perceptions by means of a cognitive approach. The social information processing model is based on the assumption that individuals adapt their attitudes, behaviors, and beliefs to their social context and to the reality of their own past and present situations. This model postulates that the

co-workers of an individual provide guidance in the way of acceptable beliefs, attitudes, and needs.

Weiss and Nowicki (1981) suggest that co-workers can affect attitudes by making certain aspects of the environment more salient (indirectly, through the social context of the job) and by influencing the interpretation of situations and events (directly, through expressed attitudes). After a review of the literature, O'Reilly, Parlette, and Bloom (1980) point out that perceptual assessments of job characteristics are susceptible to the saliency of informational and normative cues. It is very likely then, that workers use such social information when developing their perceptions of job characteristics and in assessing how satisfied they are with their job.

A study by White and Mitchell (1979) supported the validity of this approach with findings of a relationship between (positive) social cues received from co-workers and reported task satisfaction. Apparently, the responses of co-workers were a more powerful motivating force than the actual properties of the task. More recent research has reported that workers' affective responses to the job were found to influence dimensionality of perceived task characteristics (Schnacke & Dumler, 1985). Social cues concerning an employee's satisfaction have been found to also influence their task descriptions (Adler, Skov, & Salvemini, 1985). Social cues consistently account for a significant percentage of variance in attitudes over and above that accounted for by objective task characteristics.

Job Conditions (Stressors)

Research concerning work-related stress has increased markedly during the last few years. Despite this growing interest, the literature remains dominated by theoretical concept papers, rather than reports of empirical investigations of stress in work organizations. Lack of a common definition and conceptualization of stress in organizations may contribute to this lack of empirical work. Further, confusion over the meaning of stress spills over to those specific variables which may cause an individual to experience stressful states, and to how those variables relate to an organization.

Definition of Job Stressors

Schuler (1980) offers a definition of job stress which incorporates the potential influence of various qualities of the organizational environment:

"Stress is a dynamic condition in which an individual is: confronted with an opportunity for being/having/doing what (s)he desires and/or (b) confronted with a constraint on being/having/doing what (s)he desires and/or (c) confronted with a demand on being/having/doing what (s)he desires and for which the resolution is perceived to have uncertainty but which will lead (upon resolution) to important outcomes" (p. 189).

Stated similarly yet more simply, Axelrod and Gavin (1980) define job stress as the consequence of factors in the organizational environment which the employee perceives as external forces acting upon him/her.

After an extensive review of stress literature, Beehr and Newman (1978) offer a comprehensive and expanded definition of stress: a condition wherein job related factors interact with the worker to change (disrupt or

enhance) his/her psychological or physiological condition such that the person (mind and/or body) is forced to deviate from normal functioning.

Stress has also been defined from an interactionist perspective. French, Rogers, and Cobb (1974) define stress as a misfit between an individual's skills and abilities and demands of the job, as well as a misfit of an individual's needs and the satisfaction of those needs supplied by the job environment. It is this last definition of stress that appears to be the one most readily adopted by social science researchers.

From the above definitions of stress, we can now define organizational demands as a set of conditions/circumstances that are likely to influence the behavior of at least some individuals and have a reasonably high probability of reoccurrence in essentially the same form (Olson, Borman, & Motowidlo, 1986).

Measurement of Job Stressors

Research on organizational stress has been classified into three categories: physiological, psychological, and behavioral (Arsenault & Dolan, 1983). However, we are mostly concerned here with the psychological category (i.e., job satisfaction), and to a lesser degree the behavioral category (i.e., performance). Further, research on organizational stress and job satisfaction has been conducted from the perspectives of individual differences, environmental factors, and a combination of the two factors. Following are reviews on each of these three perspectives.

Individual Differences. Much of the literature relating job satisfaction, stress, and individual differences has been restricted to those individual differences that are demographic in nature (e.g., sex, age, educational achievement, job tenure, region of residence, and the like). However, more recent research is focusing on the individual characteristic of higher-order need strength and how it moderates the relationship between job characteristics and job satisfaction. Further, these individual differences are believed to act as moderators in some way on the relationships between job satisfaction and stress.

Job satisfaction has been correlated with age (older are more satisfied), with sex (but only in interaction with other demographic variables), and with educational achievement (those with more than a high school diploma are more satisfied). Generally, such correlations have been weak for large and diverse populations, yet strong in interaction with other variables for particular populations based on organizational or occupational membership.

Reported reviews of the literature reveal a generally positive relationship between age and job satisfaction. In some of those studies, diversity of interest was also investigated, with reports that, regardless of age, high diversity employees tend to find more satisfaction with the intrinsic aspects of their jobs than do less diverse employees (Arvey & Dewhirst, 1979).

Glenn and Weaver (1982) investigated the relationship between education and job satisfaction. They report that the payoff in job satisfaction from education is quite modest on the average, with all or most of it received through earnings, occupational prestige, and in the case of men, job autonomy and authority. The positive effect of education, however, was reported greater for women than for men, with women reporting a greater payoff in satisfaction and well-being from their education than have men. Even with this reported difference between men and women, education appears to have little direct effect on job satisfaction, either positive or negative.

Few studies have investigated the relative impact of other potential moderators of job satisfaction. Wanous (1974), however, examined the moderating effects the on task characteristics-job response relationships of high versus low higher-order need strength, rural versus urban background, and strong versus weak agreement with the Protestant Work Ethic. Higher-order need strength had the greatest moderating effect, while agreement with the Protestant Work Ethic had an intermediate moderating effect, and area of socialization the least effect. An explanation of these findings may be that the environment of socialization influences work values which, in turn, affect higher-order need strength.

The relationship between the Protestant Work Ethic only and job satisfaction was examined by Blood (1969). Findings here indicate that agreement with the Protestant Work Ethic is directly related to job satisfaction, and agreement with the nonProtestant Work Ethic is inversely

related to job satisfaction. These results imply that the more an employee agrees with the Protestant Work Ethic, the more he/she will be satisfied in his/her work situation.

Relevant personal characteristics may also affect job satisfaction (Seashore & Taber, 1975; Aldag & Brief, 1975). These personal characteristics can range from relatively enduring characteristics to others that are somewhat fleeting and transient, yet recurrent states. It is the existence of the less stable personal characteristics which suggest that the same individual may be more satisfied at one time than another, even if his/her job environment were to remain constant.

Individual differences also appear to have a moderating effect on reactions to potentially stressful situations (Parker & DeCotiis, 1983). For example, certain personality characteristics, such as Type A behavior (hard driving, persistent, and extremely involved in one's work), may affect individual responses to potential job stressors (Keenan & McBain, 1979). However, Perrewe' (1986) reports from her study that activity level, which is similar to Type A behavior, did not moderate the perceived demands-satisfaction relationship. It may be that individual differences account for little variance in job satisfaction when compared to other potential stressors, particularly if, as suggested by Holland (1973), people seek jobs that are congruent with their personal characteristics.

Wiener, Vardi, and Muczyk (1981) investigated the role that work satisfaction, as well as career satisfaction, played in the overall state of mental health of employees. The attitudinal variables work satisfaction and career satisfaction, and the individual variable need achievement, showed the strongest relationships to overall mental health. This study lends support to the above findings which suggest that personality type may affect the ways in which individuals respond to certain job stressors.

It is the contention of Pulakos and Schmitt (1986) that job attitudes and satisfaction are related more to the dispositional state of the individual than they are to specific organizational/environmental demands. Their findings indicate that differences in temperament and disposition directly affect perceptions of the work environment. They report positive correlations ($r = .11 - .28$) between preemployment expectations addressing the extent to which a job will meet higher-order needs and job satisfaction.

Higher-order need strength has been demonstrated to moderate the relationship between job scope and general job satisfaction. Though positive in all cases, the moderating effect between job characteristics and general job satisfaction is weaker amongst those low on higher-order need strength than it is among those high on this variable (Jackson, Paul, & Wall, 1981).

Organizational/Environmental Factors. Cooper (1985) outlines six major sources of occupational stress: factors intrinsic to the job; role in the

organization; career development; relationships at work; organizational structure and climate; and home. Across a variety of occupations, sources of stress intrinsic to the job include poor physical working conditions, shift work, work overload or underload, physical danger, and person-environment fit. The employee's role at work is viewed by many as a main source of occupational stress, involving role ambiguity, responsibility for people and their safety, and conflicts stemming from organizational boundaries. Career development stressors refer to the impact of overpromotion, underpromotion, status incongruence, lack of job security, and thwarted ambition. Also related to job stress are relationships at work, including the nature of those relationships and social support from co-workers, supervisors, and subordinates. Organizational structure and climate stressors include such factors as office politics, lack of effective consultation, lack of participation in the decision making process, and restrictions on behavior.

Parker and DeCotiis (1983) propose a model of job stress utilizing categories very similar to the six major sources of occupational stress mentioned above. They group job stressors into the following six categories: (1) characteristics and conditions of the job; (2) conditions associated with the organization's structure, climate, and information flow; (3) role-related factors; (4) relationships at work; (5) perceived career development; and (6) external commitments and responsibilities. Their model presents job stress as a first-level outcome and job satisfaction as a second-level outcome. Results of their study indicated that the strongest

single relationship (a partial of .36) was between stress and hours worked per week.

Another element which affects job satisfaction is an employee's satisfaction with the work schedule. When asked to rank the importance of 35 job satisfaction factors, airmen ranked work itself at the top, with work schedule ranked not far behind as seventh (Sanders, 1985). It is suggested in this study that scheduling of work hours may have more of an impact on job satisfaction than the number of hours worked per week.

As further evidence for the previous study, Staines and Pleck (1986) report that, based on data from the 1977 Quality of Employment Survey, flexibility of work schedules provide protection against nonstandard work schedules for both men and women. However, it does so more strongly and frequently for women than for men.

A study by Locke (1969) argues against the findings of Sanders (1985) and Staines and Pleck (1986). He asked employees of a research firm to indicate their ideal work week length, and then asked them to rate how satisfied they would feel if their work week was lengthened, stayed the same, or shortened. Findings of this study indicates that there is an optimal length of work week with increasing deviations on either side of the response "stay the same" being experienced as increasingly unpleasurable. Further, Locke argues that this type of response pattern should hold for the great majority of job aspects (e.g., variety, task difficulty, temperature of workplace, attention from supervisor, travel required). One significant

exception to this argument is pay; in our culture there appears to be no upper bound on the amount of pay that most employees would like to receive.

Individual Differences and Environmental/Organizational Factors. Much of the literature on organizational stress associates job stressors with either high work demands or low levels of autonomy. The general conclusion is that workers with very low levels of autonomy report less job satisfaction than workers who have jobs with higher autonomy, and that severe work overload leads to exhaustion, while severe work underload leads to boredom and frustration (Payne & Fletcher, 1983). Qualitative features of work (overload) appears to be a more common source of stress than quantitative aspects of work (Keenan & Newton, 1985).

In connection with the above findings, Karasek (1979) also investigated the effects that job demands and autonomy may have on job satisfaction. He suggested that it is not high demands or low discretion which produces job dissatisfaction, rather it is a combination of both high demands and low discretion which produces negative affects, particularly that of job dissatisfaction. Karasek further states that it is the combination of high demands and high discretion which produces high levels of job satisfaction. These findings are very much in agreement with Maslow's (1954) theories because demanding jobs also tend to be those which require higher order intellectual and manual skills, creativity, and problem solving, and high discretion allows satisfaction of the need for autonomy.

Role conflict and role ambiguity have additionally been associated with low job satisfaction and high job-related tension. Organ and Green (1974) report that employees who believed that environmental events are within their own control had lower perceived role ambiguity and higher job satisfaction than employees who believed that environmental events are controlled by fate or luck. Keenan and McBain (1979), however, were unsuccessful in duplicating these findings, casting doubt on the generality of Organ and Green's findings.

In opposition to the above study, Gorn and Kanungo (1980) offer an interesting finding. As measured by the four-part Job Opinion Questionnaire, extrinsic managers expressed greater overall job satisfaction, as well as greater satisfaction with each of fifteen job factors than did intrinsic managers. They suggest that managers with high intrinsic needs may not be easily satisfied perhaps because of their high expectations about the nature of a job they should have, and/or the relative difficulty management may have in structuring a job that can in fact be interesting, offer self-development, independence, etc. Further, it may be difficult to provide jobs that one could say are intrinsically rewarding, yet be relatively easy to offer jobs with good pay and security. As evidence of this, Keenan and Newton (1985) report that extrinsic aspects of the job, such as pay, career prospects, and job security, do not tend to be major sources of stress, accounting for only seven percent of their reported total incidents.

The interaction of individual characteristics of education and age, and the organizational characteristic of management position on the level of job satisfaction was examined by Bergmann (1981). As measured by the Minnesota Satisfaction Questionnaire, a paper-and-pencil, 52 core item survey, education and age within level have very little significant or systematic effect on job satisfaction. Interestingly, highly educated middle/lower managers reported more satisfaction with compensation (comparison, company practices, and amounts) and with company goals, plans, policies, practices, and staffing decisions than did top managers who were not so highly educated. The results of Bergmann's research lend support to the hypothesis that hierarchical level has the most pervasive effect on job satisfaction, whether by itself or in terms of the findings between levels on individual variables such as education or age. The results further indicate that personal progress and development, not compensation, superior-subordinate interaction, or organization context, is the strongest predictor of overall job satisfaction.

Job satisfaction was investigated by Williams and Hazer (1986) as an intervening variable between environmental and personal characteristics and organizational commitment. It was their contention that satisfaction would be associated with aspects of the work environment and thus develop more quickly than commitment, which would require an employee to make a more global assessment of his/her relationship to the organization. Their findings indicate that personal and organizational characteristics directly influence only satisfaction, and indirectly influence only commitment

through their impact on satisfaction. One could then hypothesize that job satisfaction is a causal antecedent of organizational commitment.

Effects of Stress on Performance

Arsenault and Dolan (1983) present a model of job stress which links job stress and performance. The principal elements in their working model are: (1) potential stressors are cognitively identifiable, and are peculiar to each occupation and organization; and (2) conditions at work become stressors only if they are perceived by the employee as representing a threat. Personality, occupation, and organization are viewed as moderators of the relationship between work stressors and first-level outcomes of performance and absenteeism. Their results led to the general conclusion that perceived job stress is more closely related to a subjective outcome (performance) than to a more objective outcome (absence).

Barnes (1984) examined the relationship between mental health and job efficiency among merchant marine officers, using job performance reports as the criterion for efficiency. A positive relationship was found; specifically, higher anxiety and emotional tension were associated with greater difficulty coping with job expectations.

Motowidlo, Packard, and Manning (1986) investigated the sources of stress, perceptions of stress, subjectively experienced stress reactions, and performance aspects (both intrapersonal and cognitive/motivational) among hospital nurses. They developed a model of the effects of stress on

performance, which specifies that events which were found to cause stress in earlier studies do in fact cause stress reactions. The more frequently they occur and the more intensely stressful they are for the individual, the greater the stress experienced. The events are caused jointly by conditions in the job setting and by personal characteristics that lead people to behave in ways that precipitate them. The intensity of stress experienced also depends on how much the individual fears evaluation. The feelings of stress are associated with feelings of anxiety and depression; depression then causes nurses to perform less effectively on their jobs, while anxiety has a positive effect on warmth toward other nurses. While feelings of hostility did not have any discernable effect on performance aspects, they observe that it is negatively affected by years of experience. This study is one of few that examines the relation of work-related stress to job performance.

Bhagat (1983) also presents a model of the effects of stressful events on performance effectiveness; the concern here was with life stressors, the events in one's personal life. Although these events have been linked to somatic and psychological consequences, there has been much less concern with the effects on performance within organizational contexts. The model was built through a review of the literature. Seven propositions were thus generated:

1. Coping and adaptational skills would moderate the relationship between personal life stress and personal life strain (reactions to stress).
2. Social and emotional support would moderate the relationship between personal life stress and personal life strains.

3. Social and emotional support would moderate the relationship between personal life strains and job involvement.
4. Adverse effects of personal life strain on job involvement would be considerably reduced when an employee is at an established or maintenance stage of his or her career.
5. In organizations with an established history and practice of type Z mode of organizational control⁵, adverse effects of personal life strain on employee job involvement would be considerably reduced.
6. Presence of job stress would moderate the personal life strain-job involvement relationship. (In this instance, moderate means to make worse.)
7. Impaired work role performance directly contributes to the generation of additional life strains, requiring additional social readjustments for the employee.

The moderating effects of social and emotional support systems are also proposed for study in this project. The seventh proposition specifies a recursive relationship between performance and perceived stress, which should become a part of the working model.

⁵ Type Z is a paternalistic mode of management, characterized by such practices as long term employment contracts, nonspecialized career paths, and informal performance appraisal systems; it stands in opposition to Type A, characterized by specialized career paths, short term employment, formalized performance evaluation systems, relatively high turnover, and strict contractual relationship between management and employees. The military mode of management sounds strikingly like Type A.

Family Characteristics

Current military literature does not link family characteristics with readiness and job performance. However, it is possible that a soldier's individual readiness could vary according to family characteristics, specifically concerning the family's position along the continuum of the family life cycle. Therefore, it becomes increasingly important to examine the family structure of Army personnel, including characteristics such as marital status, presence of children, and length of marriage (Long, 1984). Here, characteristics of family structure and composition will be defined and discussed in order to determine which characteristics are most important in measuring how family factors affect readiness.

Family Structure

A family is typically defined as consisting of a householder and persons related to the householder through birth, marriage, or adoption. Families may consist of a married couple (with or without children), a single parent (no spouse present but with one or more children), or persons related in other ways, e.g., sisters residing together (Long, 1984). Most studies examine primary families, or families living in their own residence (Long, 1984; Segal, 1986; Lewis, 1984; Orthner & Bowen, 1982). The composition of the family, then, is distinguished by marital status and the presence of children. In examining the structure of Army families, these two characteristics of the family should be discussed.

Marital status. The proportion of married military men has risen steadily since World War II, declining during the Vietnam war, and increasing again following the war (Segal, 1986). From 1952 to 1972, the percentage of married enlisted personnel in the Army increased from 29 percent to 52 percent (Segal, 1986). Cross-sectional demographic data reflect the military family structure in 1985. Approximately one-half of all enlisted personnel and three-fourths of all officer personnel were married. Most wives of military personnel surveyed in 1985 were young, high school graduates, and more officer wives had some college education than enlisted wives. Most spouses were also in their first marriages, and had been married to military members averaging less than four years. The great majority of enlisted personnel (86 percent) had never been married when they first entered military service, while 28 percent of officer personnel was married upon entering the military; thus, the majority of military members married while in the Armed Forces (Griffith, Doering, & Mahoney, 1986). Long (1984) reported that more men in the military were married than men not in the military in 1980, while women in the military were somewhat less likely than men in the military to be married.

This increase in the number of married men in the military, and specifically in the number of married men in the Army, has been attributed to a) the use of technology increasing the concern for retention of trained personnel, thereby affecting the Army's decision to allow more soldiers to marry; b) the enactment of international policy requiring a large peacetime force; and c) the advent of the all-volunteer force creating the need to make the military attractive to married individuals (Kohen, 1984).

Presence of children. McCalla, Rakoff, Doering, & Mahoney (1986) reviewed responses to the 1985 Officer, Enlisted, and Spouse surveys and reported that 60 percent of the officers responded that they were married with children; for enlisted personnel, 43 percent were married with children. Griffith, et al., (1986) found that of those military members with children, approximately 50 percent of enlisted personnel and 40 percent of officer personnel had children under five years old (Griffith et al., 1986). While children appear to be present in military families earlier than in civilian families, the data show that the number of children born to military women has remained approximately the same as the number of children born to civilian women.

Single parenthood. Over time, the composition of the American family has changed, and these changes are reflected in the structure of Army families (Orthner & Pittman, 1982). For example, more single parents now are members of the military than in previous years. McCalla et al., (1986) reported that approximately three percent of enlisted military personnel and two percent of officer personnel were single parents, in comparison to approximately 30 percent of civilian families which were headed by single parents in 1982 (U. S. Bureau of the Census, 1983). Unlike civilian single parent families, where 89 percent were headed by women, three-fourths of military single parent families were headed by men (Wakefield, 1981), probably due to the predominance of men in the military (Orthner & Bowen, 1982).

Dual career couples. The proportion of dual-career couples in the military has also increased in recent years. From 1970 to 1979, the labor force participation rate of military spouses (civilian spouses married to military members) advanced by 20 percentage points to 50 percent participation, the equivalent of civilian spouses (civilian spouses married to civilians) (Grossman, 1981). In 1986, 52 percent of military spouses were working or looking for work compared to 55 percent of civilian spouses (Hayghe, 1986). However, when the age difference between military and civilian spouses was considered, military spouses were less likely than civilian spouses to be in the labor force. Because it can be assumed that the vast majority of military spouses are likely to be under 45 years of age, when comparing the labor force participation rates of military spouses to married women ages 14 to 44, the labor force participation rate of military spouses dropped 18 percentage points lower than the rate of their civilian counterparts (Hayghe, 1986). Consequently, partly reflecting the larger proportion of military spouses with no earnings than civilian spouses, military spouses were less likely than civilian spouses to contribute to the family's total income (Long, 1984).

Racial/Ethnic Group Composition of Military Families

Concerning the ethnicity of military families, McCalla et al., (1986) reported that approximately 40 percent of Army enlisted personnel in 1985 identified themselves as members of minority ethnic groups, the highest proportion of minorities enlisted in a given service. Approximately 15 percent of Army officers identified themselves as being black, hispanic, or members of "other" minority groups. Griffith et al., (1986) stated that the

greatest percentage of minority military wives were in the Army, where 37 percent of enlisted wives identified themselves as members of minority ethnic groups. Additionally, military men surveyed in 1985 were more likely to be married to foreign-born women than civilian men (Long, 1984). Concerning minority women in the military, 51 percent of enlisted women in the Army identified themselves as minorities (Griffith et al., 1986).

Family Life Cycle

Definition. While the family life cycle provides a framework for studying aspects of family life, the family life cycle is primarily regarded to be a theoretical rather than empirical tool (Nock, 1979). Many formulations of the family life cycle have been proposed (Nock, 1979; Norton, 1983). Most models attempt to identify major transition points within the life span of a family (Norton, 1983), with the first stage being marriage and the last being the dissolution of the marriage through death or divorce. Carter and McGoldrick (1980) expanded the span of the life cycle to cross generations by creating a new first stage called "between families: the unattached young adult." In this stage, the adult accepts separation from his or her parents and begins to establish a separate identity through work and friendship. Intermittent stages include birth of first child, families with preschool children, families with schoolage children, families with teenagers, the launching of the first child, parents without children present in home (the empty nest), and aging families. These events are significant turning points for the family because they are believed to affect the relationships among family members (Nock, 1979). In using this conceptualization of the family life cycle, the non-traditional variations

in the family structure are typically omitted: premarital birth, separation and divorce, and remarriage (Norton, 1983). Some typologies, however, consider these transitions (Carter & McGoldrick, 1980). For the purposes of this research, the conceptual stages of the family life cycle will include the unattached adult, families without children, families with preschool children, families with schoolage children, families with teenagers, families with young adults, and parents without children present in home (the empty nest).

Measurement. While the family life cycle is helpful in studying aspects of family life, the major problem with life cycle studies is that it must be assumed that the stages devised for study correspond empirically to meaningful transitions encountered by the family (Nock, 1979). Therefore, rather than using theoretical stages of the family life cycle, such as transition into parenthood, as measurement, the major empirical dimensions of the family life cycle should be used. Many researchers now agree that those changes in the family having to do with the number of persons in the family and those having to do with the family members' positions outside the family are the important events in the family life cycle (Nock, 1987). Thus, the most important criteria are a) the presence or absence of children, b) the age of the oldest child, c) the grade in school of the oldest child, and d) the age and occupational status of the married couple (Nock, 1987). In addition to these four dimensions, age of youngest child is frequently used to assess a family's placement in the life cycle (Griffith et al., 1986).

McCubbin and Patterson (1983) classified families by life cycle stage based on the age of their oldest child, and identified four stages of the life cycle: couples without children, families with preschool and schoolage children, families with adolescent and young adult members, and families at the empty nest stage of life. Griffith et al. (1986) used age of youngest child as reported by the spouse to classify families by life cycle stages: families with preschool children (ages 0-5), families with schoolage children (ages 6-11), and families with teenagers (ages 12-17). Families without children were classified in two categories by the wife's age. Wives ages 29 and older were classified as "pre-parental" or potentially childless families, while wives ages 30 and older were classified as permanently childless or having children no longer counted as dependents because the children were ages 18 and older. Presence of children was classified by age. These classifications that Griffith et al. (1986) used correspond with traditional life cycle stages excluding families with young adults and aging families.

Discussion and Recommendations

Based on this brief review of the family structure and the family life cycle, the family characteristics that should be considered in examining individual readiness include marital status, career status, presence and age of children, length of marriage, and the racial composition of the family. For the purposes of this research, the family should be conceptually defined as consisting of a householder, and any other persons related to the householder through birth, marriage, or adoption. By definition, then, a family could consist of a single individual (with or without children) or a married

couple (with or without children), thereby including unmarried military personnel.

For the purposes of this research, the following empirical dimensions of the family life cycle should be used for analytic purposes: a) marital status, b) length of marriage, c) the presence or absence of children, d) ages of children, e) the grades in school of children, and f) the age and occupational status of the married couple. These dimensions of the family life cycle can be measured as follows:

1. Marital status can be operationally defined as whether or not an individual is married.
2. Length of marriage can be measured in number of years.
3. Presence of children can be operationally defined as whether or not an individual has children, and whether or not those children are currently residing in his or her place of residence.
4. Ages of children can be measured in years.
5. Dual career couples can be operationally defined as whether or not the spouse is employed either full or part-time.

Racial/ethnic group composition of military families can be operationally defined as the ethnic group of both the spouse and military member. Couples identifying themselves as members of different ethnic groups can be considered to be bi-cultural families.

Individual Characteristics

The individual coming into a job is not a cipher. He or she has certain knowledges, skills, abilities, traits, attitudes, age, sex, racial affiliation, education, experience, and other characteristics. Some of these are the result of environment or background, others are simple immutable facets of the individual. Many of these (and other characteristics) are correlated; some of the correlations are spurious, while others exist because of patterns in our society. Many, if not all, of the individual characteristics may be expected to have some impact on the various domains in the readiness model: job satisfaction, commitment, performance, and readiness.

Measurement of Individual Characteristics

The measurement of age, sex, race, and formal education is fairly simple -- ask the individual. The scaling of the measures is always open to debate. Should schooling be a continuous variable (years of education), an ordinal variable (last year of school completed), or a dichotomous variable (high school diploma vs. not)? Does race have two values (white vs. non-white) or more? Should age be considered in terms of two- or three- or five-year increments? The answers to such scaling questions frequently depend on the base rates among research participants as well as on the nature of the dependent variable.

In the U.S. Armed Forces, the Armed Services Vocational Aptitude Battery (ASVAB) is used to screen out individuals who might be expected to

fail the initial training in their jobs. The ASVAB has ten subtests, which are combined in various configurations to yield ten aptitude area composites, as well the Armed Forces Qualifications Test (AFQT) score. The AFQT is the general screening mechanism, while the aptitude area composite scores are used to screen individuals for placement into training for particular jobs. The ASVAB has been validated on trainees in various jobs, but its ability to predict post-training performance is still a hot topic for research.

In an effort to improve on the ASVAB, a review of the predictor literature and a series of expert judgments was used to identify cognitive constructs that tap abilities relatively independent of those measured by the ASVAB (Peterson, 1987; Peterson, et al., 1987⁶). Three constructs -- spatial visualization, spatial orientation, and inductive reasoning -- were singled out for test development, and six timed paper/pencil cognitive tests were developed. Internal consistency reliability estimates on over 9,000 soldiers' data ranged from .87 to .99; the test-retest reliabilities on 468 to 487 soldiers, over a two week interval, were between .65 and .78.

⁶ It should be noted that the work reported by Peterson and his colleagues (1987 and 1987) was performed as a part of the Army's Joint Services Project to improve the selection and classification of enlisted personnel (also known as Project A). Many other scientists, both ARI and contractor, were involved in the development, and prepared interim reports and presentations; they are given due credit in the Project A Annual Reports (HumRRO, 1983, 1984, 1985). Because of the compulsive and extensive literature reviews prepared in advance of the development of the cognitive, noncognitive, and computerized predictors, they are regarded as state of the art instruments.

The measurement of physical characteristics and psychomotor or perceptual skills is somewhat more difficult. By their very nature, these characteristics require more lengthy and expensive tests, and they tend to be somewhat less stable over time. Peterson (1987; Peterson, et al., 1987) described the procedures used to identify target constructs for cognitive-perceptual and psychomotor predictor test development to supplement the ASVAB. Computerized tests were developed for seven constructs, including reaction time, perceptual speed and accuracy, memory, number facility, movement judgment, two-handed coordination, and steadiness/precision. Analyses of data collected from over 9,000 soldiers revealed acceptable internal consistency estimates of reliability (generally from .60 to .90, depending on the subtest and type of score). Test-retest reliabilities on samples of about 475 soldiers ranged from .23 to .78 (except for one proportion-correct score, with a reliability of .02).

Peterson (1987; Peterson, et al., 1987) also describes efforts to develop measures of personal attributes (temperament, biodata, and interests) which would be used as predictors of subsequent job performance. The Assessment of Background and Life Experience (ABLE) included temperament and biographical items for scales such as emotional stability, self-esteem, work orientation, and physical condition. The Army Vocational Interest Career Examination (AVOICE) included interest and more biographical items on 22 general career interest areas (e.g., mechanics, electronics, rugged individualism, and leadership/guidance). The Job Orientation Blank (JOB) covered more general areas of preferences for various kinds of working

conditions, such as organizational support, job status, and autonomy. Again, respectable reliability estimates were obtained.

Relationships to Job Performance

During the 1985 large scale Concurrent Validation phase of the Army's project to improve the selection and classification of enlisted personnel (Project A), all of these instruments (ASVAB, ABLE, AVOICE, JOB, paper/pencil cognitive tests, and computerized cognitive and perceptual/psychomotor tests) were administered to over 9,000 soldiers in 19 jobs; all had been on the job 1-2 years. At the same time, a lengthy battery of criterion measures (including hands-on tests, job knowledge tests, training achievement tests, Army-wide and job-specific rating scales, and combat prediction scales) was administered (the hands-on and job knowledge tests and the job-specific rating scales were developed and administered to soldiers in only nine of the jobs). With such a wealth of data, it is perhaps not surprising that the data are still being analyzed. The performance data were reduced to five constructs: job-specific technical proficiency, general soldiering proficiency, effort and leadership, personal discipline, and physical fitness and military bearing (Campbell, McHenry, & Wise, 1987; described in a previous section). The predictor data were with great difficulty reduced from 74 test and scale scores to 20 predictor composites, which were further conceptualized as six constructs: general cognitive ability, spatial ability, perceptual-psychomotor ability, temperament/personality, vocational interests, and job reward preferences (McHenry, Hough, Toquam, Hanson, & Ashworth, 1987).

Across the nine jobs for which complete data had been collected, the predictor-criterion relationships were as follows:

- The general cognitive ability composites, computed from the ASVAB, were the best predictors of job-specific technical proficiency and general soldiering proficiency. The spatial ability and perceptual-psychomotor ability composites also provided excellent prediction of the two proficiency constructs.
- The general cognitive ability composites also provided reasonable prediction of effort and leadership; spatial ability and perceptual-psychomotor ability predicted effort and leadership only slightly less well.
- None of the three cognitive domain composites predicted personal discipline nor physical fitness and military bearing very well.
- The best prediction of effort and leadership, personal discipline, and physical fitness and military bearing was provided by the temperament/personality composites from the ABLE. For effort and leadership, achievement orientation made the greatest contribution. For personal discipline, dependability was the best predictor. The best predictor of physical fitness and military bearing was the physical condition composite.
- The temperament/personality domain composites were very poor predictors of the proficiency constructs.
- For the vocational interest composites, the highest multiple correlations were with the two proficiency constructs, while the lowest correlations were with personal discipline and physical fitness and military bearing.
- None of the new predictors added appreciably to the ASVAB in predicting proficiency, but the temperament personality predictors provided significant incremental validity over the ASVAB in predicting effort and leadership, personal discipline, and physical fitness and military bearing.
- The correlations of the vocational interest and job reward preference composites with the three "will do" criterion composites were disappointingly low, pointing to the need for assessment against measures of job satisfaction.

Project A is, of course, not the only effort to examine predictors of job performance. Hunter (1986) reviewed hundreds of studies showing that general cognitive ability predicts job performance in all jobs. It predicts supervisor ratings and training success; it predicts objective, rigorously content valid work sample performance even better. Furthermore, although path analyses show that much of this predictive power derives from the fact that general cognitive ability predicts job knowledge, which predicts job performance, it in fact predicts performance above and beyond the prediction through job knowledge.

Horne (1986) examined the prediction of AFQT scores to training performance and SQT (Skill Level 2) scores, controlling for sex, race, education, experience (military rank), and training/job match in the prediction. His results demonstrate that AFQT designed as a measure of trainability, is a significant predictor of performance, as measured by the SQT. No other variables appear to be consistently significant across jobs. However, the high school diploma generally does exert a positive impact on performance, as does experience and job training in the job of assignment.

Another individual characteristic which has been found to correlate with a variety of behavioral outcomes can be broadly termed work/career orientation. This refers to a fairly stable set of beliefs and attitudes about work and career in general. A number of authors have described this orientation, with some overlap between the various conceptualizations. For instance, Blood (1969), Mirels and Garrett (1971), and others have focused on work ethic, or the extent to which an individual feels that personal

worth is derived through hard work. This is thought to be an orientation which results from social and/or cultural influence. Greenhaus (1971) coined the term "career salience" to describe the importance of career in one's life. Job involvement (Lodahl and Kejner, 1965) and Central Life Interest (Dubin, 1956) also concern the relative importance of work to the individual as compared to other aspects of his/her life. Although factors related to a specific job or work experience may have an impact on the characteristics described by these authors, overall they are thought to be relatively stable and independent of situational influence (Morrow, 1983).

Among the measures used to capture individual orientations on these dimensions are Mirels and Garret's (1971) Protestant Ethic Scale, which includes 19 items exploring attitudes towards the value of leisure and work. Greenhaus' (1971) career salience scale contains 27/28 items which have been factor analyzed into three subscales--general attitude toward work, vocational planning, and relative importance of work. Lodahl and Kejner (1965) developed a 20-item job involvement measure, which has been criticized by a number of authors both for the way in which it was derived and for a lack of a consistent factor structure (Siegel, 1971). Despite these criticisms, various subsets of items from these scales have been used in subsequent investigations (Lawler and Hall, 1970). Finally, Dubin (1956) has developed a central life interest scale, with a 32-item version used most frequently in past research. Among the correlates of these various measures are job satisfaction and its various components (e.g., supervision, work, company, etc.), turnover, and absenteeism.

Army Policies and Practices

The issue of family services and Army readiness raises some very specific questions, including the following:

- What Army policies/practices/programs should be included under the "Family Services" umbrella?
- Are there specific Army policies/practices/programs specifically designed to enhance readiness?
- What evidence exists on actual effect of policies/practices/programs on readiness?
- Are differences in effect to be expected by installation, unit, or job?
- Are there indirect effects on readiness?

What Army Policies/Practices/Programs Should be Included Under the "Family Services" Umbrella?

The concept that the Army should provide services and support other than mess, quarters, and clothing is historically fairly old, but the proliferation of those services is post-Korean War, and the expansion to include families is more recent still. The Regulations of the United States Army--1913 directed that there be set up, "libraries, reading rooms, chapels and schools" which were to be used primarily by enlisted men. Post exchanges (which allowed credit sales, but prohibited beer, wine or liquor sales) were operated by the War Department. Commanders could, at no cost to the government, erect buildings for gymnasiums, bowling alleys or "other places of amusement." Congress funded the Soldier's Home in Washington, DC for any soldier who was disabled or who had completed 20 years service.

Currently, there are a great many of programs that exist to support soldiers and their missions, but exactly how many is uncertain. Rand, in the Families and Mission study (Vernez & Zellman, 1986) identified 7 categories of programs and over 65 specific programs. HumRRO's Family Factors in USAREUR (Dawson, McGuire, Brooks, & Hebein, 1981) looked at 42 agencies, at least half a dozen of which are not included in the Rand list. The Army Family Action Plan IV (AFAP IV) lists 82 "issues" for consideration at the 1986 planning conference. Some of these are reflected in programs or activities, and some are more specific or isolated problems or issues. Moreover, there are some programs that exist only in specific commands. For example, a command may establish a Family Assistance program, for units scheduled to go to the National Training Center or to major exercises, or a unit may conduct unit orientations for family members. Finally there are "programs" provided by the civilian community such as cultural, social and recreational facilities, mental and physical health support, legal aid, and job opportunities and counselling.

It is probably impossible to develop an exhaustive list of specific programs, because of the diversity of Army locations, organizations and command autonomy. Many programs, such as Army-Air Force Exchange Service and Directorate of Facility Engineers are fairly stable continuing functions. Others, such as many listed in the AFAP IV (e.g., fast food outlets, driver training, or space available travel for widows) are of transient nature or of concern to special interest groups. The listing in Table 1 is based on the same categories outlined in the Rand study. The sublistings are indicators of scope only, with specific programs, activities and practices to be placed under them. Table 2 lists programs covered by

Table 1

Support Program Areas Identified in the Rand Study on Families and Mission (Vernez & Zellman, 1986)

SUPPORT PROGRAM AREAS						
COMMUNITY ACTIVITIES	HOUSING	EDUCATION	HEALTH CARE	ADULT/ FAMILY SESSIONS	RELOCATION	NON-ARMY SUPPORT PROGRAMS
Morale, Welfare, Recreation Activities	Family Housing	DoDD Schools	Medical Treatment	Child Care	Relocation Services	Military Support/ Assistance Groups (Private)
Non-Morale, Welfare, Recreation Activities	Non-Family Housing	Education Centers	CHAMPUS	Youth Activities	Sponsorship	Community Support/ Assistance Groups
Chaplain Activities	Housing Assistance	Learning Centers		Family Advocacy	Referral	
		Off-Post Schools		Counselling	Homeowner's Assistance	
					PCS Allowance	
				Family Support		
				Personal Affairs		
				Legal		
				Safety		
				Alcohol/ Drug Abuse		

Table 2

Programs Identified in the Rand Study of Quality of Life Programs (Venez, Meredith, & Prastac, 1986)

PROGRAM	ELIGIBILITY	CRITERIA FOR ESTABLISHMENT	PERTINENT TASK 3 ISSUES
Morale, Welfare, and Recreation Activities			
1. Army and Air Force Exchange Service (AAFES)	All military personnel, their families, and other members of the military community (e.g., active duty, reserves in training, and civilian employees) are eligible to purchase merchandise from AAFES.	Commercial and civilian availability of similar services. Current and continuing need, interest, and financial viability. Decision to establish is made by installation commander with approval of MACOM and INDA.	morale
2. Morale Support Activities (MSA)			
a. Physical Activities Sports	Same as above with the following exceptions: civilian personnel and on-post private organizations can take part in intramural programs if allowed by the commander on a space available basis. Civilian and family member participation is authorized at the installation level only and for team sports, excluding contact sports. Civilian personnel and family member youths eligible for Youth Activities Program may not participate in the Army Sports Program.	Installation Commanders are responsible for customizing the program to specific needs of the particular area/installation.	Physical Fitness, Unit Morale, Esprit de Corps, and team work
b. Physical Activities Outdoor Recreation	Same as AAFES with the following exceptions: on-post private organizations may take part in MSA outdoor recreation facilities only on a space available basis and if it does not deny other authorized persons use of facilities.	Established as part of Installation Moral Support Activities (MSA) program at all installations where natural resources may be developed. If natural resources not available on-post, commander may lease sites off-post. Installation outdoor recreation director responsible for planning, developing, coordinating and directing all outdoor recreation operations.	Physical and Mental Fitness, Unit Morale, Esprit de Corps, and teamwork.
c. Physical Activities Golf, Bowling	Same as AAFES with the following exceptions: on-post private organizations may patronize MSA facilities only on a space available basis and if does not deny other authorized patrons use of MSA facilities. Active duty military patrons will receive priority use of activities.	Established as part of MSA program, MACOM will assign qualified individuals (officer or civilian) as point of contact to monitor MACOM-wide golf/bowling activities and to serve as MACOM liaison to golf/bowling associations.	morale, physical fitness
d. Physical Activities Armed Forces Recreation Centers (AFRC)	Same as AAFES	AFRC's are established as Category III MAFI's. OCMUS AFRC's are subject to the provisions of Status of Forces Agreements and International Treaties. The following AFRC's are authorized: 1) AFRC, Europe, 2) Hale Koa Hotel, 3) Kilauea Military Camp, 4) Naitiji Hotel, and 5) Seoul Garden Hotel.	Physical and Mental Fitness, morale. AFRC's also serve as training facilities for operations of rest and recuperation training which would be activated upon mobilization.

- Continued -

Table 2 (Continued)

PERTINENT TASK 3 ISSUES

CRITERIA FOR ESTABLISHMENT

ELIGIBILITY

PROGRAM

morale

3. Military Clubs
Same as AAFES with the following exceptions: Army officers; MCO/enlisted, and community clubs are membership organizations; priority is given as follows: (1) active duty personnel, (2) active duty not stationed at the installation, (3) family members, (4) retired, (5) ROTC cadets, (6) DoD employees, (7) other federal employees, and (8) honorary memberships. Membership in Army clubs is voluntary and according to a person's military or civilian grade as determined by installation commanders in each club branch and MACOM's overseas.

4. Other Membership Associations (e.g., Auto/Cycle Club, Flying Club, Riding Club, Rod and Gun Club)

Membership to clubs (excluding Army sports parachuting) is on a voluntary basis, with the following order of priority: 1) active membership which includes active duty; enlisted personnel of other services assigned duty at the installation; and civilian employees in overseas commands subject to local treaties and agreements, 2) associate membership which includes Active Duty members of the Armed Forces of foreign countries while serving in an official tour of duty; military personnel on temporary duty or transient status at the installation; military personnel residing in the immediate area of the installation and others.

morale

Membership associations are only established if functions do not duplicate those performed by other categories of MMR activities by the installation commander who approves the purpose and designates the fund manager.

Community Amenities

1. Maintenance and Repair

The entire military community are eligible to receive maintenance and repair service on an installation.

Individual readiness

The facilities engineer decides which aspects of maintenance and repair projects are to be included in a plan based on: Good engineering practices; operational and administrative considerations; economical contracting practices; and rules relevant to family housing.

Approval authority for Operation and Maintenance, Army (OMA) projects tests with the MACOM if the cost of the project does not exceed \$2,000,000 or if the cost of the project does not exceed 50 percent of the replacement cost of the facility for projects whose funded costs are greater than \$200,000.

2. Chaplains Program

Religious services are available to all members within a command unit, including dependents. Priority for services goes to active duty members and their families; National Guards, Reservists and their families; and finally to civilian employees and their families if resources are available.

morale
mental/emotional health

Religious worship services, religious education facilities, and chapels should be strategically located on the installation, well identified by an appropriate sign, readily accessible (within 15 minutes walking time) to family housing areas, troop housing areas, and community life centers, and open during duty hours.

- Continued -

Table 2 (Continued)

PROGRAM	ELIGIBILITY	CRITERIA FOR ESTABLISHMENT	PERTINENT TASK 3 ISSUES
Housing			
1. Family Housing	All active duty members and their families are eligible for free on-post housing, if available. Waiting lists generally operate on a first come, first-served basis. If military housing is not available or a family chooses to live off-post (for officers and enlisted E7 and higher only) the government will subsidize off-post housing by providing a tax-free Basic Allowance to Quarters (BAQ) towards the rental or purchase of a civilian home. Those in upper ranks (e.g., senior MCO's and officers in key positions, first sergeants or unit commanders) and those in lower ranks (e.g., below E7) are usually required to live on-post near their work. To qualify for family housing, all that is required is a marriage certificate or an official dependent.	As a matter of policy, family houses are to be built only where housing is tight in civilian neighborhoods. Centralized Family Housing Offices are required at all installations with family housing responsibilities. Family Housing Offices should be operational a minimum of eight hours a day, five days a week.	Individual readiness, spouse readiness
2. Permanent Party Unaccompanied Personnel Housing (PPUHP)	Personnel eligible to live in permanent party housing are: 1) permanently assigned single and unaccompanied military personnel and PSC students; 2) single and unaccompanied civilian employees (APF and MAF), 3) JOCOMUS civilian employees (APF and MAF) receiving a living quarters allowance (LQA), and 4) American Red Cross personnel when assigned duty with the Army.	Permanent party housing on-post should be within a 15 minute walk of work areas and essential community facilities. Off-post quarters should be within one hour commuting distance during rush-hour traffic. The PPUHP program is based on standard barracks complexes replacing temporary facilities when justified by long-range manpower strengths (as determined by the Army Stationing and Installation Plan (ASIP)) and the physical condition of the facilities.	Individual readiness
Army Continuing Education System (ACES)			
1. Defense Activity for Non-Traditional Education Support Service (DANTES)	All active duty personnel are eligible. Counselors authorize testing. Military adult family members and DoD employees may take part in ACES programs on a space-available basis. Civilian federal employees and their family members in overseas locations may take part in ACES programs on a space-available basis.	Available to soldiers worldwide and especially adaptable to remote areas. At least one Army Education Center (AEC) is to be established on each installation having military troop strengths of 750 or more. Installations with less may establish an AEC at the installation commander's discretion within available resources.	education
2. Education Center Testing Service (ECTS)	All active duty personnel are eligible. Counselors authorize testing. Military adult family members, DoD employees and their family members in overseas locations may take part in ACES programs on a space-available basis.	Testing is available at each Army Education Center (AEC) and most subcenters. At least one AEC is to be established on each installation having military troop strength of 750 or more. An installation with less may establish an AEC at the installation commander's discretion within available resources.	education
3. Foreign Language Training	All active duty and Army linguist personnel and soldiers on duty for overseas assignments. Families and DoD civilian employees and their families eligible on a space-available basis.	Each installation education center is to provide foreign language training opportunities. At least one Army Education Center (AEC) is to be established on each installation having a military troop strength of 750 or more. An installation with less may establish an AEC at the installation commander's discretion within available resources.	education, spouse readiness, individual readiness

- Continued -

Table 2 (Continued)

PROGRAM	ELIGIBILITY	CRITERIA FOR ESTABLISHMENT	PERTINENT TASK 3 ISSUES
4. Learning Center Services	All active duty military personnel, Department of the Army Civilians and adult family members.	Each Army Installation with an Army Education Center is to offer this service. At least one AEC is to be established on each Installation having a military troop strength of 750 or more. An Installation with less may establish an AEC at the Installation commander's discretion within available resources. Installations not directly supported by an Education Center will be satellited on the nearest Army Installation with an Education Center for service.	educational training and support services, readiness
5. Post Secondary Education Program (PSEP)		At least one Army Education Center is to be established on each Installation having a military troop strength of 750 or more. An Installation with less may establish an AEC at the Installation commander's discretion within available resources. Participating Institutions must be chartered or licensed by the state government and must be regionally accredited by an organization recognized by the Council on Post-Secondary Accreditation.	education
6. Service Members Opportunity Colleges Associate Degree Programs (SOCADP)		Every Installation with an educational center has a general studies option. Technical programs directly related to MOS/OWF will be offered on Installations with applicable MOS/OWF. At least one AEC is to be established on each Installation having a military troop strength of 750 or more. An Installation with less may establish an AEC at the Installation commander's discretion within available resources. Participating Institutions must be chartered or licensed by the state government and must be regionally accredited by an organization recognized by the Council on Post-Secondary Accreditation.	education, readiness, job skills/performance
Medical Treatment Facility (MTF)			
1. Military Health Service System		Health care facilities are established based on standards of the Joint Commission on the Accreditation of Hospitals (JCAH) and determined by the availability of military and civilian medical treatment facilities. Final approval is determined by DoD.	
2. Civilian Health and Medical Program of the Uniformed Services		CHAMPUS was created to supplement the military's hospitals and clinics to provide medical care for eligible beneficiaries who live at a distance from a military installation.	

- Continued -

Table 2 (Continued)

PROGRAM

ELIGIBILITY

CRITERIA FOR ESTABLISHMENT

PERTINENT TASK 3 ISSUES

Adult and Family Services

1. Child Development Services (CDS)

Eligible sponsors include: active duty and retired military personnel and their families; members of the military reserve on continuous active duty or active duty for training and their families; widows, widowers and other next of kin of military personnel who were on active duty or retired at time of death; next of kin to POW/MIA personnel of all armed services; DoD civilian personnel employed on the installation where local civilian resources are not available, and it is in the interest of the Army. Overseas commands determine eligibility in accordance with international treaties and agreements.

Army readiness

Army CDS's are established at installations that are not tenants or satellites of a host installation, authorize families to join their sponsors, or have a total installation population of 1,000 or more. The establishment of CDS is strongly recommended and authorized at installations where off-post child care resources are limited or there are special circumstances even though the above conditions are not met.

2. Youth Activities and Recreation

Youths (ages 6 to 19 years) of military families (e.g., active duty, retired, unmarried spouses, DoD, AF and NAF civilian, guests--when approved, and foreign national) are eligible for youth activities and recreation programs.

Army readiness

At the installation level, a community Youth Director is responsible for the management, supervision, and coordination of all elements of the youth program regardless of organizational placement within the MSA structure. Youth activity centers are an essential MWR activity. They should be centrally located near family housing areas but away from alcoholic beverage vendors.

3. Child and Spouse Abuse

In COMUS, the following personnel are eligible for assistance: active duty and retired personnel and their families; members of the Reserve and National Guard components on active duty or active duty for training and their families; Department of the Army civilians and their family members if the local civilian resources are not available (extent of services determined by local commander); widows, widowers, and other next of kin of military personnel who were on active duty or retired at time of death; next of kin of POW/MIA personnel of all armed services. On overseas commands, the commander determines eligibility in accordance with international treaties and agreements.

mental and physical health/ readiness

Army Community Services (ACS) programs are to be established at installations that are not tenants or satellites of a host installation, authorize families to join their sponsors; and have an installation or community population of 1,000 or more. ACS programs are strongly recommended and authorized at installations that do not meet one of the above criteria if community health and welfare resources are limited or the complexity of social problems requires special programming.

4. Consumer Affairs and Financial Assistance

All active duty and retired military personnel and their families; members of the Reserve and National Guard components on active duty for training and their families (if local civilian resources are not available), widows, widowers, and other next of kin of military personnel who were on active duty or retired at the time of death; and next of kin of POW/MIA personnel of all armed services are eligible for services. In overseas commands, eligibility is determined locally in accordance with international treaties and agreements.

prevention measures to soldiers do not become "distracted from their primary duties" (p. 156), i.e., individual readiness

ACS programs are to be established at installations that are not tenants or satellites of a host installation, authorize families to join their sponsors; and have an installation or community population of 1,000 or more. ACS programs are strongly recommended and authorized at installations that do not meet one of the above criteria if community health and welfare resources are limited or the complexity of social problems requires special programming.

- Continued -

Table 2 (Continued)

PROGRAM	ELIGIBILITY	CRITERIA FOR ESTABLISHMENT	PERTINENT TASK 3 ISSUES
5. Counseling: Information, Referral, and Follow-up	All active duty and retired military personnel and their families; members of the Reserve and National Guard components on active duty for training and their families; Department of the Army civilian personnel and their families (if local civilian resources are not available), widows, widowers, and other next of kin of military personnel who were on active duty or retired at the time of death; and next of kin of POW/MIA personnel of all armed services are eligible for services. In overseas commands, eligibility is determined locally in accordance with international treaties and agreements.	ACS programs are to be established at installations that: are not tenants or satellites of a host installation, authorize families to join their sponsors; and have an installation or community population of 1,000 or more. ACS programs are strongly recommended and authorized at installations that do not meet one of the above criteria if community health and welfare resources are limited or the complexity of social problems requires special programming.	Individual and spouse readiness
6. Counseling: Family Life Centers	All active duty personnel and their family members are eligible as well as Army National Guard and U.S. Army Reserve personnel serving on active duty, retired military personnel and their family members; and authorized civilian employees of the Army.	Approximately 30 family life centers have been established in COMUS and three in Europe. Additional centers will be established as they are approved by local commanders. Centers operate on a full timebasis or a part time basis according to need and available staff.	Individual and spouse readiness
7. Family Support Groups	To be considered an Army family support program, the family support group must have the following components: (1) a local regulation with goals, scope, structure and responsibilities outlined that define it as a command program, (2) unit commander linkage, (3) an appointed family support group representative at the battalion and company level, (4) a formalized and actively on-going communication support network to link family members and the chain of command, and (5) formal incorporation in the units' deployment family assistance plan.	All installations should have family support groups.	Individual and spouse readiness
8. Army Legal Assistance Program	All members of the armed forces on active duty or on periods of active duty for periods of 30 days or longer are eligible for legal assistance. Other categories of personnel are eligible if resources are available.	Every major Army installation offers legal assistance.	Individual readiness, spouse readiness
9. Alcohol and Drug Abuse Prevention and Control Program (ADACP)	ADACP evaluation is mandatory for active duty personnel identified as possible alcohol or drug abusers and for other persons as mandated by court action. Participation is voluntary for all other persons including active duty military personnel and their dependents; Army National Guard and U.S. Army Reserve personnel serving on active duty, initial active duty training, special tours of active duty training, or involuntary active duty training; retired military personnel and their dependents; U.S. citizen civilian employees of the Army and their dependents.	Each Army installation and activity is mandated to operate an ADACP.	Individual readiness, physical and mental fitness

- Continued -

Table 2 (Continued)

PROGRAM	ELIGIBILITY	CRITERIA FOR ESTABLISHMENT	PERTINENT TASK 3 ISSUES
10. Safety Program	All Army personnel must comply with safety regulations, occupational safety and health standards, and other safety directives and orders.	All commands, installations, and units of the Army, including the U.S. Army Reserves, the National Guard, and Reserve Officer Training Commands participate in the Safety Program.	Individual and unit readiness
Relocation			
1. Relocation Services	All personnel must be processed through ACS upon arrival. In the continental United States, the following personnel are eligible for ACS program assistance: 1) active duty and retired military personnel and their families; 2) members of the Reserve and National Guard components on active duty for training and their families; 3) Department of the Army civilians and their family members, if local civilian resources are not available (as determined by the local commander); 4) widows, widowers, and other next of kin of military personnel who were on active duty or retired at time of death; 5) next of kin of POW/MIA personnel of all armed services. In overseas commands, eligibility will be determined locally in accordance with international treaties and agreements.	ACS programs are to be established at installations that: are not tenants or satellites of a host installation, authorize families to join their sponsors; and have an installation or community population of 1,000 or more. ACS programs are strongly recommended and authorized at installations so not meet one of the above criteria if community health and welfare resources are limited or if the complexity of social problems requires special programming.	Individual readiness, spouse readiness
2. Sponsorship Program	An individual sponsor will be appointed for all service members in pay grades E1-06 and civilian employees through pay grade GS-15 when receiving reassignment orders. Both single and married service members and family members are included. For all other individuals, sponsorship is not required but may be provided upon request.	A sponsorship and orientation program must be established at all installation or equivalent activities (e.g. military communities and separate agencies). Commanders will establish the necessary controls to ensure that all subordinate commanders/supervisors comply with the spirit of this program.	Individual readiness, spouse readiness
3. Housing Referral Service (HRS)	All military personnel with or without family members and eligible DoD appropriated and nonappropriated fund U. S. citizen employees with or without family members are eligible for HRS. HRS services may be utilized when military personnel and their families are either authorized or require off-post housing.	At installations with 500 or more military personnel, a Housing Referral Office (HRO) must be established. Installations with less than 500 military personnel are serviced by 1) an HRO of a larger installation within the same geographic area or 2) a local HRO to perform HRS to the extent required.	
4. Transient Unaccompanied Personnel Housing Visiting Officer and Visiting Enlisted Quarters (VOC and VEQ)	Officer, enlisted and DoD civilian personnel are eligible for visiting quarters. Family members are eligible only on a space available basis.	At installations with 500 or more military personnel, a Housing Referral Office (HRO) must be established. Installations with less than 500 military personnel are serviced by 1) an HRO of a larger installation within the same geographic area or 2) a local HRO to perform HRS to the extent required.	

- Continued -

Table 2 (Continued)

PERTINENT TASK 3 ISSUES

PROGRAM

CRITERIA FOR ESTABLISHMENT

ELIGIBILITY

5. Homeowners Assistance Program	All DoD military and civilian personnel, and personnel of other federal agencies serving or employed at, or in connection with a military base or installation which has been closed (totally or partially), resulting in involuntary unemployment or reassignment, since 1 November 1964 or which has had scope of operations reduced since 28 October 1969. Temporary employees, MAF employees, and independent contractors (including their employees) are not eligible.	An agreement between the DoD and the Department of Housing and Urban Development enacted Public Law 89-754 (3 November 1966), Section 1010 of the Demonstration Cities and Metropolitan Development Act of 1966. This law authorizes the Secretary of Defense to provide assistance to owners of one- or two-family dwellings located at or near an installation ordered closed.
6. Utility Waiver Program (UWP)	All military personnel with or without family, members and at some installations Department of the Army civilians and their families are eligible for financial assistance from the program.	Installation commands must negotiate with local landlords and utility companies to establish agreements when commanders feel that UWP will be utilized at their installation.
7. Permanent Change of Station Allowances	Active duty service members, retired, those separating from the military, and Reserve members on active duty for extended periods (with or without families) who have received PCS orders are eligible for financial assistance from the government.	not applicable

the Rand study of family support programs (Vernez, Meredith, & Praskac, 1986), along with eligibility and criteria for establishment.

Are There Specific Army Policies/Practices/Programs Specifically Designed to Enhance Readiness?

To answer this question places one in the position of either taking a very broad view or very narrow view of what affects readiness. The broad view is that job satisfaction affects retention which ultimately affects readiness. The Rand study (Vernez & Zellman, 1986) specifically states that it expects family factors to impact on readiness primarily through individual behavior and commitment. It cites three elements of personnel readiness:

1. Personnel strength.
2. Proportion of leadership positions filled.
3. Job qualifications of those assigned.

Rand sees all these issues as basically retention or attrition issues, the first two being strictly retention and the third issue being selective (i.e., best qualified) retention. Under this criterion, all programs (probably including many not addressed, such as pay, awards and decorations, and style of the uniform) will have some effect on overall job/life satisfaction and the decision to stay or leave.⁷

Yet there is some evidence that there is a component of personnel readiness separate from retention. Specifically, anything which causes or

⁷It should be noted that our interest in Army policies and practices is restricted to those that most directly affect readiness. Many of the policies are designed with the more immediate objective of promoting strong families; these are covered in the literature review for Task 1.

contributes to an individual's absence from the unit affects both personal and unit readiness.

Absences can be due to a variety of causes--AWOL, appointments, counselling, education, illness, family care, disciplinary actions--but the result is the same. Soldiers who are not there cannot be trained. If enough soldiers are not there, the unit cannot train. Sorley (1980) states that units below 80% strength lose the capability to train effectively. More important than the overall unit strength is the effect on crews or teams such as infantry squads, tank crews, howitzer crews, command post elements, maintenance teams and medical stations. For example, the absence of one tank crew member leaves the crew at 75% strength.

Rand further notes that some situations affect not only the individual involved, but others in the chain of command, involving them in counselling, monitoring and administration problems, and effectively removing the chain of command at least partially from their training function.

Evidence exists that there is a direct connection between the family situation and absences. Children under 7 years of age are the major cause of absences in one study of civilian employee absences (Ilgen & Hollenback, 1984). Hartnegel (1974) found that one-half of all AWOL in a sample studied were the result of "family problems." Savell (1982) found that, during a four week period, 10% of a sample of first term soldiers missed duty because of a need to provide home or family care. An Army survey in 1984 found that 61,000 enlisted and 10,000 officer personnel lost job or duty time because of difficulty finding child care.

Absence from duty would appear at this point to be the most direct factor to affect readiness. However, it must be recognized that absences

have many causes, as outlined in Table 3. To evaluate a program policy or procedure it will be necessary to assess its effect on absenteeism. Not all programs and policies have positive affects on absences; as can be seen from the Table, some absences will be caused by the programs themselves.

What Evidence Exists of Actual Effect of Policies/Practices/Programs on Readiness?

In a word, none; the subject has simply been insufficiently addressed. The Families and Mission study (Vernez & Zellman, 1986) repeatedly raises this issue:

"Coverage of variables is uneven--almost nothing on readiness"

"There are no studies of the effects of ability on readiness"

"The effects of age on readiness have been little addressed"

"No studies of the relationship between Morale, Welfare and Recreation service use and readiness are available"

"The Army should . . . give attention to translating the general concepts. . . of readiness in ways that are uniformly understood by all."

"The current lack of data. . . particularly in readiness, constitutes a significant limitation on the value of the family literature in making policy decisions."

"Attention should be paid to understanding the relationship among family characteristics, in particularly use of child care facilities, on various readiness measures."

And finally, the Rand review lists a summary of effects of individual and family characteristics on the three Army outcomes of attrition, reenlistment and readiness. Of the 25 characteristics listed, 24 are marked as "data not available" for the readiness outcome. Only "children" are

Table 3

Categories And Causes of Absenteeism

UNAUTHORIZED	DISCIPLINARY	HEALTH	EDUCATION	FINANCIAL	PROCESSING	FAMILY	COUNSELLING
AWOL	Court Martial	Illness	Basic Skills	Letters of Indebtedness	Inprocessing	Illness/Childbirth	Drug/alcohol Abuse
Failure to Report	Article 15	Accident	Education Program	Loans and Relief	Outprocessing	Childcare	Spouse Abuse
Confinement	Legal Aid	Profile/Restricted Duty	On Duty	Tax	Quarters	Transportation	Family Interaction
	Civilian arrest/Court Appearance		Schooling	Counselling		Family Discipline Problems	Weight Program
				Credit Counselling		Divorce/Separation	
				Pay Complaints		Adoption	
				Suits/Garnishments/Repossessions		Single Parent	
				2nd Jobs/Moonlighting		Working Spouse	

listed as having a negative effect on readiness with no data on the other characteristics.

Are Differences in Effect to be Expected by Installation, Unit, or Job?

As concerns readiness, this question is premature because it is unknown how, if at all, any policy, program or procedure affects readiness.

However, it can be expected that the policies, programs and procedures will differ by unit and location, though probably not by MOS. The Army is currently located on approximately 100 installations in CONUS, about 40 of which could be considered "major" troop or training concentrations. In addition, there are both major and minor troop concentrations in Germany, Korea, Alaska, Hawaii, Italy, Panama, Japan, France, Turkey, England and Egypt. The missions vary with the locations. Some CONUS posts, such as Fort Jackson or Detroit Arsenal, have primarily a training or support function and are "stable" assignments while others such as Fort Bragg or Fort Hood are engaged in full time training and subject to immediate deployment. The programs and policies will definitely vary by location, density of troops and requirements and by prerogatives of the command.

In discussing the model for Army Family Decision Making, the Rand Families and Missions (1986) warns that factors external to the Army may interact with internal factors in predicting Army outcomes and that the type, availability and quality of these factors will vary depending on the locations of Army installations in CONUS and abroad. It further warns that it is the installation, not the Major Command or unit battalion, that is the appropriate level of analysis for studying family support programs. (Such may not be true in overseas commands where Corps, Army or Theater commands

tend to have more effect on local policies and where "installations" are much smaller concentrations.)

Thus it would appear that installation specific support system descriptions will be necessary, as well as installation specific problem descriptions and installation specific demographic descriptions. The alternative to this may be to limit research to those installations that support a separate brigade or larger organization, under the premise that this reflects the combat power of the Army--the essence of the organization. This would limit the diversity of the installations to about 12 CONUS posts, 1 Alaska site, 1 Hawaii site and as many as 10 Europe locations. While this would significantly reduce the potential number of sites to be surveyed, it would also insure that these locations reflected the combat strength of the Army.

• Are There Indirect Effects on Readiness?

As discussed earlier, virtually every program or policy can ultimately affect readiness through retention functions. But between that approach and the direct effect of absences there may exist a non-direct but none the less related aspect of readiness. Morale or job satisfaction or even Army satisfaction probably play a significant part in both personal and unit "readiness". The Families and Missions study (Vernez & Zellman, 1986) indicate that researchers have found two components to military satisfaction, i.e., a job component including supervisor behavior, autonomy and peer relationships and a family component which reflects family satisfaction with the military. Other studies (Allen & Bell, 1980) found

that significant contributions to satisfaction were O'Mara's four dimensions of organizational climate, specifically:

- Good unit level communication and decision making.
- High unit status.
- Personal motivation to the job.
- Unit mission.

What remains to be established, and what literature shows has not been done to date, is to establish two links. The first is the link between "job satisfaction" and readiness (as opposed to attrition/retention) and to establish a specific link between Army programs, policies, practices and job satisfaction.

Additional Army Policies that Directly Affect Readiness

Besides the policies discussed in the context of "Family Services," there are many Army policies or regulations that impact readiness, either because they require certain events to occur or they define the parameters around which the life of the Army flows. There are two main components considered here--Training and Personnel Management. Purposely omitted from consideration are Equipment, Funding, and Research and Development.

The areas outlined below (including subareas) each have their own regulations or policies governing their application. The list is indicative, not exhaustive.

TRAINING

- Systems Training
 - Individual and Collective Training Plans
 - New and Displaced Equipment Training
- Individual Training
 - Individual Training Plan (ITP)/Course Administration/Program of Instruction (POI)
 - Army Program for Individual Training (ARPRINT)
 - Resource Training
 - New Manning System Training (COHORT)
- Enlisted Training
 - Initial Entry Training (IET)
 - Non-Commissioned Officer Education System (NCOES)
- Officer Training
 - Military Qualification Standards (MQS)
 - Pre Commissioning
 - Lieutenant Training
 - Captain Training
 - Field Grade Training
 - General Officer Training
 - Warrant Officer Training
- Unit Training
 - Individual Training in Units
 - Individual Training Evaluation Program
 - Collective Training
 - Standards in Training
 - Training Management
- Training Support
 - Publications
 - Devices and Simulators
 - Multiple Integrated Laser Engagement Simulation (MILES)
 - National Training Center (NTC)
 - Simulations
 - Range Modernization
 - Ammunition and Targets
- Mobilization Training
 - Training Base Expansion
 - Reserve Component Responsibilities
 - Mobilization Training Strategy
 - Replacement Center Implementation Planning

PERSONNEL MANAGEMENT

Selection/Retention

- Enlistment
- Reenlistment
- Reserve Enlistment
- Selection of Enlisted Soldiers for Training and Assignment
- Enlisted Personnel Classification
- Enlisted Career Management Fields and Military Occupational Specialties
- Airborne, Ranger, Special Forces Selection
- Career Develop Programs
- Officer Candidate Selections
- Appointment of Commissioned Officers and Warrant Officers
- Separation After Term of Service
- Separation Prior to Expiration of Term of Service
- Separation for Convenience of the Government
- Separation for Dependency and Hardship
- Defective Enlistment and Inductions
- Separation for Pregnancy
- Rehabilitation Failure
- Retirement
- Separation for Unsatisfactory Performance/Misconduct
- Separation for Homosexuality
- Changes in Service Obligation
- Services Obligation/Participation Requirements
- Orders to Active Duty
- Qualitative Management Program
- Personnel Testing

Assignment

- Permanent Change of Station Policy (PCS)
- Overseas Service Policy
- New Manning System (NMS)
- Casualty System
- Enlisted Personnel Assignment System
- Requests for Relief from Assignment
- Assignment to Specific type Organization/Activities/
Duty Positions
- Management of Space Imbalanced Military Occupational
Specialties (SIMOS)
- Mobilization of Reserve Components
- Stabilization of Tour
- Commissioned Officer/Warrant Officer Assignment/Reassignment
- Assignment of Personnel with Physically, Emotionally, or
Intellectually Handicapped Dependents
- Conscientious Objectors
- Command Sergeants Major Program
- Preparation of Individuals for Overseas Move
- Port Call Procedures
- Travel of Dependents and Accompanied Military To, From and
Between Overseas Areas
- Orders to Active Duty of Individuals During Peacetime
- Transportation of Personal Property and Related Services

Qualification

- Standards of Medical Fitness
- Promotions and Reductions
- Qualification and Familiarization with Weapons and Weapon Systems
- Army Physical Fitness Programs
- Personnel Security Program
- Nuclear Surety
- Chemical Surety
- Service School Attendance
- Personnel Qualification Records
- Equal Opportunity Programs
- Linguist Program

Evaluation

- Weight Control Program Administration
- Alcohol/Drug Abuse Administration
- Suspension of Favorable Personnel Action
- Unfavorable Information Administration
- Standards of Conduct
- Individual Training Evaluation
- Physical Performance Evaluation
- Academic Evaluation Reporting System
- Enlisted Evaluation System

Rewards/Discipline

- Leaves, Passes, Permissive Temporary Duty (TDY)
- Military Awards
- Uniform Code of Military Justice System (UCMJ)
- Absence Without Leave/Desertion
- Bonuses/Special Duty Pay
- Pay and Allowances
- Remission/Cancellation of Enlisted Indebtedness

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