



ARI Research Note 90-17

Career Decision-Making and the Military Family: Toward a Comprehensive Model

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19. ABSTRACT (Continue on reverse if necessary and identify by block number) This report summarizes the findings of a panel of scientists convened to develop a conceptual framework for guiding research on the relationship between retention and Army family issues. Literature was reviewed in five domains important in retention decision-making: economic factors, job-related factors, and family, community, and organizational culture. Based on these reviews, a retention decision-making model incorporating all domains was proposed. This publication presents a preliminary model of the career/retention decision-making process. In addition to the effect of job factors, the impact of family concerns and processes on retention and career decision-making is explored. Five retention and family issues are identified and discussed in detail: economics and retention, job factors and retention, family factors and retention, community variables and retention/turnover, and organizational culture and retention. The comprehensive model of family retention decision-making is based on information from these five areas. (Continued)						
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19. ABSTRACT (Continued)

The proposed model provides direction to family and retention research. It is the first comprehensive model of retention as both an outcome and a process. The Army needs to have a process model of the family career/retention decision-making process to find ways to encourage the best soldiers and their families to make the Army a career.

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FOREWORD

Retention of highly qualified personnel has always been central to the Army's mission and the Army recognizes the importance of family members in career decision-making. In response to the CSA White Paper 1983: The Army Family and to The Army Family Action Plans (1984-1989), the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) is conducting the Army Family Research Program (AFRP), which will include research that identifies relationships between family factors and retention.

For this research it is necessary to have a framework that allows research to be carried out in sequential stages where each effort follows logically from the preceding one. This type of framework is essential in providing the Army with useful information in a timely manner. It decreases the possibility of duplication of effort, provides a mechanism whereby each effort builds on what has come before, and maximizes the likelihood of obtaining products that are relevant to Army needs. The conceptual model described in this publication provides such a framework.

The model, which is based on existing theoretical and empirical research, focuses on those areas that have demonstrated the greatest potential to affect retention, establishes the linkages between family-related factors and retention, and pinpoints the areas where policy and program interventions should be pursued. The proposed model will be of value to the Army and civilian community in guiding subsequent research and developing decision-making tools.

EDGAR M. JOHNSON
Technical Director

CAREER DECISION-MAKING AND THE MILITARY FAMILY: TOWARD A COMPREHENSIVE MODEL

EXECUTIVE SUMMARY

Requirement:

In 1982, General E. C. Meyer, then the Chief of Staff of the Army, stated "We [the Army] recruit soldiers but we retain families." Since then, the Army published the CSA White Paper 1983: The Army Family and The Army Family Action Plans (1984-1989). These actions highlight the important role the family plays in a soldier's decision to stay in the Army. Yet, little is known about the how (process) and what (content) family concerns influence the decision to stay or leave.

Procedure:

Literature reviews of five domains identified to be important in retention decision-making were conducted. These five domains were: economic, job related factors, family, community, and organizational culture. Based on these reviews, a retention decision-making model incorporating all domains was proposed.

Findings:

This publication presents a preliminary model of the career/retention decision-making process. In addition to the effect of job factors, the impact of family concerns and processes on retention and career decision-making is explored. Five retention and family issues are identified and discussed in detail. These five topics are: economics and retention, job factors and retention, family factors and retention, community variables and retention/turnover, and organizational culture on retention. The comprehensive model of family retention decision-making is based on information provided from these five individual topics.

Utilization of Findings:

The proposed model provides some direction to the family and retention research. It represents the first comprehensive model of retention as both an outcome and a process. The Army needs to have a process model of the family career/retention decision-making process to influence the best soldiers and their families to make the Army a career.

CAREER DECISION-MAKING AND THE ARMY FAMILY: TOWARD A COMPREHENSIVE MODEL

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I. BACKGROUND

PURPOSE OF THE PROJECT

In June of 1985, a panel of social scientists was convened to develop a conceptual framework to guide future research by the Army Research Institute for Behavioral and Social Sciences (ARI) on the relationship between retention and military families. This project was designed to respond directly to the mandate expressed in the Army Family Action Plan (1984, 1985) to "describe relationships between retention and family factors."

Retention of highly qualified personnel is central to the Army's mission. It has always been an issue of concern to the Army, but has taken on increasing significance since the advent of the all-volunteer service. Recent evidence suggesting that families play an important role in retention decisions has been one of several factors that has spurred increased Army interest in taking action to meet family needs and strengthen the partnership between the Army and its families.

Research can play an important role in helping the Army to determine exactly how family factors influence retention and exactly what types of actions are most likely to result in increased retention of valued personnel. Currently, ARI has an unprecedented opportunity to conduct research on families and retention. But research resources are not unlimited; and to be effective, research must be efficiently targeted at those areas that will yield the greatest amount of practical knowledge. Research must build on the existing base of knowledge, and it must focus on those areas which have demonstrated the greatest potential to affect retention. It must be sequentially ordered so that each stage of research follows logically from lessons learned in earlier stages. Finally to enhance the credibility of findings, research should be conducted within the broader context of retention models that currently influence policy.

The development of a conceptual retention model that explicitly recognizes family factors serves these purposes well. A conceptual model, soundly grounded in the existing theoretical and empirical research, establishes the chain of linkages between various family-related factors and the turnover decision and thus pinpoints the areas where policy and program interventions should be pursued or additional research should be conducted. As Dr. Albert Glickman observes in his paper on job-related factors (see Appendix B), the utility of a model ". . . resides in the main in dictating the questions to be addressed, defining the data that is relevant, and providing the strategy of inference to bridge gaps in what is observable and demonstrable. . . ." Ultimately, if it

is fully tested and widely accepted, a model provides enduring justification for future policy, program and budgetary decisions aimed at enhancing retention.

Consequently, the development of a conceptual model is a logical place to begin a research program. It not only helps guide subsequent research but also leads to the development of a powerful decision-making tool.

This project was planned to provide that beginning. It is intended to provide a point of departure for ARI's research in the families and retention area. The principal objective of the project is to develop a comprehensive, conceptual model of the retention decision-making process which incorporates family factors. This model will provide the conceptual underpinning for ARI's future research on families and retention, including testing of the model, identification of potentially promising policy, program, and organizational interventions to enhance retention of desired personnel, and the development of models to predict quantitative impacts of potential family-related interventions on retention.

Four desired outcomes of this project were described by ARI:

- 1) Conceptual Turnover Model -- a general conceptual model (a "picture" or "diagram") which predicts the retention decision and indicates the impact of family factors. The model should take into consideration the dynamics of the decision-making process at different stages of the family/career cycle.
- 2) Narrative Description of the Model -- a description of the key elements of the model and their inter-relationships.
- 3) Assessment of Existing Knowledge -- a narrative description of what is known currently about the nature of these relationships, including identification of major gaps in current knowledge. A detailed review of the literature was considered beyond the scope of this preliminary effort, but a brief summary of key theories and studies was expected as necessary and appropriate to justify the proposed conceptual model.
- 4) Suggested Research Strategies -- general suggestions on research methods and topics to test the model and further ARI's research objectives in the retention area.

The model to be developed was not expected to be definitive, but rather to represent the best thinking of the panel of scientists, based on their review of their literature and knowledge of the field. It is in that spirit that this paper is presented.

METHODOLOGY

An interdisciplinary panel of five scientists was selected to develop the conceptual framework:

- Gerald M. Croan (Chairman)
- Gary L. Bowen
- George Farkas
- Albert S. Glickman
- Dennis K. Orthner

The panel was selected for its expert knowledge in the fields of military families, military career decision-making, and behavioral economics.

The project was conducted in four phases over a four month time frame.

1. Brainstorming

The panel met for two days in Washington, D.C. to clarify project objectives and intended products, identify alternative theoretical and modeling approaches, identify model parameters, and specify a preliminary model and potential key constructs.

2. Sub-model Development

The panel members conducted independent research in five domains considered potentially important to retention modeling:

- Economics
- Job
- Family
- Community
- Organizational Culture

ARI and panel members identified a wide range of relevant reference materials, and these were distributed by the chairman. Each panel member produced a paper on one of the five areas. Each paper provides:

- A review of the prevailing theories/models explaining soldier and family satisfaction in the area (e.g., job satisfaction, satisfaction with the Army's organizational culture) and linking that domain to turnover.
- Presentation of a proposed "best" model depicting the major sets of factors explaining soldier/family satisfaction in the assigned area and relating that satisfaction to retention.

- A discussion of the proposed model, its key constructs and variables, and the direction of relationships, including an assessment of the level of confidence in and strength of the relationships.
- A discussion of the relationship of the sub-model to an overall retention model.

Because of time and resource constraints, as well as the limitations of the literature, the organizational culture domain was developed in less detail than the other areas.

3. Model Integration

The panel reviewed all of the papers and convened in Chapel Hill, N.C. to clarify concepts contained in the sub-models and to reach agreement on an integrated, comprehensive retention model that best represented the panel's thinking and research.

4. Model Specification

The chairman prepared a draft report on the proposed model, based on the two meetings and using the individual papers as supporting documents. The draft was circulated to the panel members and ARI for comments, and then revised and finalized.

ORGANIZATION OF THE REPORT

This report is organized into three sections, in addition to the Background section:

- Section II. In Search of a Comprehensive Model -- provides an overview of the major themes in military and civilian turnover research and provides the rationale for the model proposed.
- Section III. Description of the Model -- elaborates on the major elements of the model and explains the rationale for the direction of the relationships.
- Section IV. Suggestions for Future Research -- is a brief section suggesting potential directions for future efforts to further specify and test the model.

Appendices A through E contain the papers on the five major sub-models.

II. IN SEARCH OF A COMPREHENSIVE MODEL

Employee turnover has been the subject of considerable research over the past 20 years, occupying the attention of economists, industrial psychologists and sociologists, and management practitioners. Research on retention within the military, relatively sparse before the all-volunteer service, has received increasing attention since the end of the draft in 1973.

In both the military and civilian sectors, research in the different disciplines has proceeded along essentially independent paths. Our panel found three primary research traditions:

- Economic research,
- Job satisfaction research, and
- Family research.

Each was found to have a substantial amount to offer to the development of a model to explain individual turnover behavior. In addition, two relatively new areas, community and organizational culture, were identified as potential contributors to a comprehensive model. This section briefly summarizes the modeling efforts to date in each area, and describes a strategy for integrating these models into a common conceptual framework for understanding retention decisions.

ECONOMIC MODELS

Economic studies of military retention have become increasingly sophisticated and widely accepted over the past decade. The dominant model being used is the Annualized Cost of Leaving, or ACOL, model. This model contains four types of factors: compensation, deferred income growth, net human capital formation, and taste preferences, all measured in terms of net differences over time between expected values of staying in the military versus leaving and joining the civilian sector.

This model, in various forms, has undergone considerable empirical testing and has demonstrated strong effects in the expected directions. Consequently this model has a great deal to offer to our task, although it also has certain limitations. First, the ACOL model has not yet considered potential spouse (or total household) earnings even though the majority of American households now have two wage-earners. Furthermore, because economic models tend to treat all non-economic variables as unspecified taste preferences, they provide little insight into the non-economic interventions which might affect retention. A few non-economic variables however, such as family status and MOS, have been included in economic studies and have demonstrated strong predictive effects.

These findings suggest the logic of including non-economic variables in the retention equation, using regression analysis to determine direct and indirect effects of both economic and non-economic variables.

This strategy is suggested in Appendix A, The Army Family and the Economic Determinants of Retention, which also provides a more detailed description and analysis of the ACOL and other economic retention models.

JOB SATISFACTION MODELS

Both the military and civilian literature demonstrate a consistent and moderately strong relationship between job satisfaction and turnover. Job satisfaction has generally been studied in terms of both the characteristics of the work itself (job content and structure) and the immediate organizational context in which the work takes place (work group and environmental supports).

Because there have been thousands of studies conducted in this field, we can have considerable confidence in the significance of job-related factors to retention. However, as noted in Appendix B, Factors Leading to Army Retention Related to the Job Itself, this literature also has a number of shortcomings. First, the relatively moderate relationship of overall job satisfaction to turnover ($r < .35$ in most studies) has been attributed in part to the failure in most of the research to take into account the expected satisfaction of competing alternatives. In addition, to the extent that economic variables have been taken into account in these studies, they are generally treated in affective (attitudinal) terms only, and generally without regard to expected utilities of alternatives. This approach has generally tended to downplay the significance of economic variables. Finally, factors outside of the immediate work environment (e.g., family, community or the broader organizational culture) have been generally ignored in the job satisfaction literature. Only a few studies have examined the relationship between job satisfaction and the family life cycle; these studies generally suggest a curvilinear relationship, but much of the evidence has been contradictory.

FAMILY MODELS

Traditionally researchers have treated the worlds of work and the family as entirely separate spheres. Only recently has the inter-relationship between these two domains been a subject of serious inquiry. Recent research on families in the military has suggested a significant relationship between family factors and retention. Although the number of studies is relatively small, and only a few have used sophisticated, multivariate analysis on large samples, the results are fairly consistent in demonstrating that both attitudes of the spouse and concerns of the service member for spouse and children play a significant role in reten-

tion decisions. Generally, the overall strengths of the effects of family factors have been comparable to those established for job satisfaction factors.

The literature suggests that the factors having an impact on retention vary significantly over time according to the structure of the family and the stage in the family life cycle. These effects may also extend to single soldiers whose career decisions may be affected by the expected future presence of a spouse, children or other dependent. The literature further suggests that family factors affect retention through a complex variety of mechanisms. There may be modest direct effects that stem from member and spouse family life satisfaction, as well as indirect effects based on perceptions of how military life affects other domains, such as spouse earnings or community life. The literature on families and retention is discussed in detail in Appendix C, A Framework for Research on Career Decisions and the Military Family.

This literature contains models that should be taken into account in a comprehensive model. Like the job satisfaction research, the modeling efforts and studies on families and retention suffer from a lack of consideration of expected utilities, and have a tendency to treat economic variables in an attitudinal context only. These models have, however, tended to provide an integrative framework for examining both family and job satisfaction variables, and have largely been responsible for introducing the concept of examining the impact of community to retention research.

COMMUNITY IMPACT MODEL

The notion that community variables may play a significant role in turnover or retention decisions is relatively new; and most of the limited research in this area has been conducted by the military, where the work organization has a much more powerful effect on the community experience than would typically be found in the civilian sector. Ecological, social systems, and psycho-cultural theories of community suggest three aspects of community that are likely to impact upon work commitments:

- Structural characteristics (e.g., housing adequacy, location);
- Formal support systems (e.g., policies and services delivered to support community members and families);
- Informal support systems (e.g., reliance on friends, neighbors, extended family).

Much of the research conducted on these community variables in relation to retention has been conducted by family researchers. While the number of studies is fairly small, the data tend to

support a relationship between service member retention and both service member and spouse satisfaction with each of these elements of community. This evidence, along with a definition of community and a review of prevailing theories and models, is discussed in detail in Appendix D, Linkages Between Community Variables and Retention/Turnover Decisions.

ORGANIZATIONAL CULTURE

In the past five years, corporate culture has become the subject of intense interest in the management sciences. Culture, generally defined as a shared set of beliefs and expectations that shape the behaviors of groups and individuals in organizations, has been linked to a wide variety of measures of organizational performance, including retention of valued personnel. The research has generally been much more anecdotal than rigorously quantitative. No systematic studies within the military were identified in our preliminary research.

From a conceptual and theoretical perspective, however, the organizational culture literature appears to offer considerable promise as a distinct component to be considered in a comprehensive retention model. Most of the research on job satisfaction has focused on the present job and the immediate work environment. In the military, the immediate job and work environment is highly transitory, almost guaranteed to change within one to three years. Consequently the individual's satisfaction with the operant norms of the broader organization (i.e., the Army) might logically take on increased importance in shaping individual attitudes toward staying or leaving. These feelings about being part of the Army (as an organization, for example, that provides an opportunity for patriotic service or an organization that takes care of its own, etc.) may have an effect on retention which is independent of current job satisfaction or community life satisfaction. The limited research done to date would appear to support this supposition, and suggests that this area merits serious consideration for inclusion in a complete retention model. It may provide a structured framework for explaining some of the unexplained variance which has often been attributed to personal taste preferences in previous retention models. Further discussion of this concept and the recent research is contained in Appendix E, Toward an Application of the Concept of Organizational Culture to the Modeling of Army Retention Decision Making: A Brief Discussion.

AN INTEGRATED MODEL

The panel's review of the literature led us to three key observations about the research to date.

1. Research in each of the five areas investigated has either demonstrated or evidenced the potential to demonstrate significant capability to help explain turnover decisions.

2. No single existing model fully predicts turnover nor provides an adequate understanding of all of the key factors leading to retention decisions.
3. The models posited in each of the five areas are relatively discrete, and are more complementary than contradictory, both in content and in method of analysis.

These observations led us to conclude that a comprehensive model could be constructed that incorporated the primary elements of the dominant models or approaches in each of the five domains, using structural equation or regression modeling as a common methodological framework for model building. Drawing on the key lessons learned from each area of research as well as the deliberations of the panel and guidance from ARI, the following principles were developed to guide the construction of a comprehensive model to both predict and explain retention behavior.

1. The model should incorporate the major elements from models in all five of the areas investigated.
2. For the sake of clarity of presentation, the basic model should contain a relatively small number of factors or constructs which represent multiple, related variables (rather than attempting to depict hundreds of potential variables).
3. Structural, cognitive and affective variables should all be incorporated into the model to maximize the explanatory power of the model and thus help the Army to determine how to intervene most effectively.
4. Although a number of potentially interactive factors and nonrecursive relationships were identified in the research, it is useful at this stage, for the sake of clarity of presentation, to depict a recursive model that reflects the primary directions of anticipated impact.
5. Each of the five areas examined (economics, job, family, community, and culture) can be treated as related, but conceptually distinct aspects of life. The level of relative satisfaction in all of these areas, taken together, leads to an overall assessment of the desirability of remaining in the Army.
6. Satisfaction should be viewed in comparative terms, reflecting comparison of current and expected future satisfaction in each area of Army life with the expected level of satisfaction in civilian life.
7. The model should explicitly recognize that spouses also develop retention attitudes that play a significant role in soldiers' turnover decisions.

Figure 1 on the next page presents a model which is based on these principles and is solidly grounded in the theoretical and empirical research literature reviewed by the panel. This model assumes that decisions to stay in or leave the Army are far more complex than previous models have suggested. It assumes that the decision-maker evaluates his expected levels of future satisfaction in each of five distinct and relatively independent areas: organizational culture, job, family, community and economics. In each area, the soldier engages in a set of deliberations that are the mental equivalent of gazing into two crystal balls: one that reveals the future in the Army and one that reveals an alternative future in the civilian world. The soldier's assessment of which future will be more satisfying affects his/her overall judgment about whether or not to remain in the Army. The perceived trade-offs in all five areas will be important to the ultimate decision, although all five may not be equally important. Current research suggests fairly strong effects in the economic, job, and family areas. Less is known about the relative strength of effects of expected satisfaction with community life or organizational culture. It is known however that the relative significance of each of the five areas in predicting retention will vary according to individual and family characteristics and by stages in the work and family life cycles.

The model also assumes that spouses play a major role in shaping the perceptions of soldiers about the relative desirability of military vs. civilian life. Consequently it is important to model the factors that determine spouse perceptions of alternative futures in much the same way that we model factors affecting the soldier.

In summary, the model presented is a turnover model far broader in scope than any proposed to date. It is also one that we believe should have significantly greater potential not only to predict turnover decisions, but also to explain how alternative policies, programs, and practices lead to different retention consequences for different categories of soldiers and families.

The proposed model, its components, strengths, and shortcomings, are discussed in more detail in the following section.

III. DESCRIPTION OF THE MODEL

The model depicted in Figure 1 contains thirteen interconnected boxes arrayed in five columns. The five columns represent a sequential progression involving:

- a set of exogenous conditions or "givens";
- a set of resultant conditions at the worksite, at home, and in the community;
- a set of perceptions and satisfactions with the various aspects of military life;
- a resultant net assessment of the desirability of military life; and finally
- the dependent variable, a turnover decision.

Each box represents a construct, or a set of conceptually inter-related factors. The arrows indicate the primary direction of the assumed causal effects. Indirect effects can be identified by tracing the paths delineated by the arrows from one box to the next. For example, job conditions (4) are assumed to have an indirect effect on family satisfaction (9) through their impact in determining the extent and quality of family interaction (5). Parallel models are depicted for soldiers and for spouses (1-12a) which intersect at the turnover decision-making juncture.

In this section, each of the columns and the boxes within the columns are discussed in turn, beginning with the dependent variable and working backwards through the model. Key variables are identified and the rationale for the directions of the proposed relationships between constructs is discussed.

RETENTION BEHAVIOR (13)

This box reflects the actual, dichotomous decision to stay or leave, whether leaving is due to failure to reenlist or attrition at any other time during the term or career of an enlisted soldier or officer.

DESIRABILITY ASSESSMENT (12)

This factor represents the soldier's net assessment of the desirability of remaining in the Army relative to the desirability of joining the civilian sector. It is predicted by the soldier's cognitive assessment of his satisfaction in each of the five domains (economic, job, family, community, and culture) and repre-

sents, in fact, the weighted resolution of the perceived trade-offs (of staying vs. leaving) in each domain. The model also assumes that this assessment interacts with and is affected by the spouse's assessment of the desirability of staying.

This factor has not been expressed in precisely this way in any of the prior literature reviewed, and consequently appropriate measures must be devised and tested to capture the concept. The closest concepts measured in previous studies would include measures of overall satisfaction with military life, measures of commitment to the Army, and measures of retention intention. In a dynamic model, as the time remaining to a reenlistment decision approaches zero, this factor ideally should predict retention intention and actual behavior with near 100% accuracy. The only factors not included in the model that might affect the final decision should be impulsive behavior or intervention by an influential associate, potentially a family member, a friend, a superior, or a career counselor.

PERCEPTUAL SATISFACTION FACTORS (7-11)

The five perceptual satisfaction factors are key to the model. Each box would include a set of affective and cognitive variables leading to an overall assessment of satisfaction in each domain. Satisfaction in each area should be defined in comparative terms. The concept of comparative satisfaction is a critical one. Several researchers have identified the need to incorporate expected utilities into turnover models, but with a few isolated exceptions, only the economic models have included this concept. These attempt to measure objectively the differences in expected economic benefits in the military vs. the civilian workforce. For the other four domains, differences in expected values would, of necessity, be measured in cognitive terms (e.g., perceptions that family life or community life would be better or worse if the soldier were out of the Army).

Research experience as well as prevailing theories strongly indicate the importance of measuring comparative utilities. For example, absolute measures of economic satisfaction have shown little or no relationship to retention in several studies (most people are dissatisfied with their current level of compensation), even though comparative, economic models demonstrate substantial effects. Judgments about satisfaction levels generally incorporate implicit comparisons to some set of referent norms or expectations. With respect to retention decisions, the key issue is perceived/expected satisfaction levels within the Army relative to the expected change in satisfaction level if the soldier were to leave the Army. For example, a soldier's dissatisfaction with his family relationships is likely to affect retention only if the soldier perceives that the relationships would improve in the civilian sector (perhaps because more time could be spent together or because of an expectation that the spouse would be happier because she would have better job opportunities and social sup-

ports available). All in all, there is considerable evidence to suggest that the predictive power of retention models might be strengthened substantially by incorporating comparative utility concepts. In the non-economic areas, this will generally require developing and validating new measures.

The five satisfaction domains are assumed in the model to be reasonably discrete, although it is recognized from the research that there is likely to be a modest amount of overlap or spillover between satisfaction in one area and satisfaction in other areas. Key considerations in each domain are discussed in turn below.

Culture Satisfaction (7)

This factor incorporates measures of the soldier's satisfaction with the organizational culture of the Army as the soldier perceives it. Satisfaction may be an expression of the compatibility between the values, beliefs, and expectations of the soldier and those communicated by the Army. Comparative satisfaction would be based upon the imagined level of satisfaction with the organizational culture in prospective competing civilian employers.

Job Satisfaction (8)

Job satisfaction is a comparative assessment of present and/or expected satisfaction with the soldier's Army job as compared to expected satisfaction in potentially accessible civilian jobs. The comparative assessment here involves those elements of the immediate work environment identified in box 4, job conditions (i.e., job content and structure and the work context).

Family Satisfaction (9)

As suggested earlier, this factor involves a comparison of the perceived quality of family life in the Army with prospective family life satisfaction outside of the Army. The overall construct of family satisfaction would be determined by perceptions on each of the dimensions indicated in the family interaction factor (5), including satisfaction with various aspects of the marriage, parent-child relationships, and relationships with other significant family members (e.g., parents).

Community Satisfaction (10)

Comparative community satisfaction is also a composite factor combining assessments of the key community conditions factors (6), such as satisfaction with housing, school systems, Army community service programs, support networks, etc.

Economic Satisfaction (11)

Economic satisfaction would represent the soldier's assessment of the value of current economic benefits (3), including wages and benefits, deferred income, and human capital formation, in the military relative to expected benefits in an alternative civilian career(s) that is perceived to be accessible. This is a cognitive factor that mirrors the estimated actual differences in benefits included in the ACOL model. While the addition of this cognitive layer makes for a somewhat more complex model, it also provides the opportunity to determine the relationship between perceived and actual levels of economic opportunity. This comparison may shed light on potential opportunities to influence perception and thus retention without actually increasing pay and benefits (e.g., by increasing awareness of benefits or potential career earnings).

ENVIRONMENTAL CONDITIONS

Boxes 4, 5, and 6 all represent environmental conditions that are experienced by soldiers and their families. These conditions result from the Army's policies and practices, as well as individual and family actions, and result in the set of perceptions and satisfactions discussed above.

Job Conditions (4)

Appendix A contains a review of the key job-related factors identified in the literature as affecting job satisfaction and retention. This construct would be defined by the key variables and relationships identified in that paper. The variables may be categorized into two major sets: Job Content and Structure factors and Work Context factors.

A. Job Content and Structure

Five key job dimensions are identified, based on the job characteristics model of Hackman and Oldham.

1. Scope and skill variety -- involves use of a number of skills and abilities.
2. Task identity/clarity -- involves carrying out clear tasks from beginning to end.
3. Task significance -- has appreciable impact on the life or work of others internal or external to the organization.
4. Autonomy and responsibility -- involves independence and authority in making decisions and carrying out tasks.
5. Feedback -- extent to which clear information is received about the effectiveness of work activities.

B. Work Context

Several factors within the immediate physical and social environment have also been linked to retention and should be considered for inclusion in the job sub-model.

1. Supervision -- consistency, feedback, consideration and other elements of supervisory style.
2. Work group structure and cohesion -- involves size and organization of the work unit, levels and nature of communication, and cohesiveness.
3. Physical environment -- involving health and sanitation, light, noise, and other office or work site features, particularly at extreme ranges.
4. Schedule -- involving degrees of hardship due to work hours, particularly because of long hours or unusual shifts.
5. Resource availability -- degree of adequacy of information, training, tools, equipment, etc. to accomplish assigned tasks.

Family Interaction (5)

Family life satisfaction is largely determined by the quality of the relationships between family members. Research suggests that these relationships are affected by job conditions (4), such as work schedule, which affects time together, and the spillover of job-generated stresses. Family relationships are also affected by community conditions (6), such as the formal and informal programs and networks in the community that provide support for families. Research evidence also indicates that the quality of family interaction is affected by the level of economic resources available (4).

Family interaction factors may be broken down into three general categories based on the family members involved: the spouse, children, and other close family members (such as parents).

A. Marital Relationship

The quality of the relationship between the married service member and his/her spouse has been measured in the literature along several key dimensions, including the following that have demonstrated a significant relationship to satisfaction.

1. Companionship -- amount, scope and quality of time spent together.

2. Sex role congruence -- the degree of agreement on sharing of household and family responsibilities.
3. Communication -- the level, ease, quality, and style of communication between spouses.
4. Decision-making/problem solving -- the degree of effectiveness in making decisions affecting the family.
5. Sexual relationship -- perceived quality of sexual interactions.

B. Parent-Child Relationship

Military parent-child relationships have not been extensively studied, but the literature identifies some elements that clearly contribute to perceptions of family life and retention.

1. Companionship -- amount, scope, and quality of time together.
2. Communication -- ease, quality and style of communication between parent and child.

C. Other Family Member Relationships

These relationships have been minimally addressed in the literature, and need to be further explored to determine their role in this model. Relationships with the parents of the soldier and/or spouse may be important, particularly for very young families, who count on parents for emotional support and assistance in child care and rearing, or for older families who are partially responsible for the care of an elderly or sick parent. Another factor to be explored is the combined effect of nuclear family inter-relationships, i.e., the perceived quality of family life as a whole may be different from the simple sum of the one-on-one relationships.

Community Conditions (6)

Appendix D identifies three dimensions of community that appear to be related to satisfaction with community life and ultimately retention.

Each category, with organizational modifications suggested by the panel, is discussed below.

A. Tenure and Location

These factors mediate the influence of the other community factors and include:

1. Propinquity to Post -- how close the soldier and family live to the post;
2. Tenure in the Community -- the length of time spent at a particular post.

B. Formal Support Systems

These are the formal community policies, programs, and services at the post and in the surrounding civilian community.

1. Post Community Policies and Practices -- the policies and practices of post leadership that are supportive of families and community life. (The policies themselves have not been well catalogued, but perceptions of support have been consistently related to satisfaction and retention.)
2. Housing -- the quality, location, and maintenance of housing and the immediate physical environment in which the housing is located.
3. Basic Services -- the quality of transportation, utilities, sanitation and other basic community services, particularly at extreme values.
4. Army Personal and Family Support Programs -- the level of awareness and use, as well as the characteristics and quality, of Army programs such as Army Community Service, recreation, Youth Activities, Child Care, sponsor programs, chaplains programs, etc. that are designed to enhance the quality of soldier and family life in the community.
5. Local Civilian Community Support Programs/Services -- the awareness and use and quality of the services available in the community, such as the educational system and other services for children, or recreation and adult education programs. (Pragmatically, it may be desirable to measure only satisfaction with these services, particularly since measurement is difficult and these variables cannot readily be changed by Army actions).

C. Informal Support System

1. Neighboring -- the extent of borrowing, exchanging, visiting and helping activity with neighbors, and the level of support provided by these activities.
2. Voluntary Organizations -- the level of participation in voluntary organizations, such as wives clubs, Red Cross, youth sports programs, PTA, churches, etc., and the degree of support provided by these activities.

3. Friendships -- the extent and quality of personal confidente-level interactions with others in the immediate military community, and the level of support derived from these relationships.

EXOGENOUS FACTORS

Army Policies and Practices (1)

Obviously a wide variety of Army policies and practices ultimately impact satisfaction in the five major domains of the model as well as retention. Within this model, we concentrate on those Army-wide policies and practices that directly influence conditions in the community and work units, as well as the quality of family interaction. We also consider those variables that help to shape the reality and perception of organizational culture. Three categories of factors are identified, and some of the key variables in the literature are noted.

A. Job Policies

This category includes Army policies that define job requirements and thus influence job conditions, as well as family interaction and community conditions. For example, the New Manning System affects the formation of informal support systems in Army communities; policies on work schedules for various types of assignments affect not only the work environment, but also the level of family interaction possible. Although these policy factors have not been rigorously studied, some illustrative factors identified in the literature have included policies on:

- PCS frequency
- TDY requirements
- Remote assignments
- Shifts and schedules
- MOS structure
- Extra duty assignments
- Supervisory hierarchies
- Manpower levels.

B. Personnel Policies

A broad range of personnel policies affect family interaction and community conditions, as well as job conditions. For example, policies on exceptional children have affected the community formal support system and therefore, potentially, satisfaction with the community as a good place to raise children (which has been linked to retention intention). Personnel recognition programs affect job conditions elements such as feedback and experienced task significance. Joint domiciling policies obviously impact family interaction. Other illustrative personnel policy variables mentioned in the literature include:

- Personnel assignment
- Civilian employment
- Education opportunities
- Housing
- Promotions
- Awards and incentives
- Relocation
- Equal opportunity.

C. Values

The Army communicates powerful messages about the nature of the organization through not only its policies but also a wide variety of symbolic actions. These messages help to define organizational culture and shape individual views of the desirability of being part of the Army. For example, when the Army designates a "Year of the Family" and promulgates an Army Family Action Plan, it communicates a set of values about how the Army cares for its people and "takes care of its own". Similarly, in the rules the Army issues about wearing the uniform, it may communicate certain messages about the value placed on pride in patriotic service. The communication of these values influences the development of job and community conditions (4, 6). It also influences the perceptions of soldiers and their families about the Army and thus their satisfaction with Army culture.

Appendix E indicates several value-related features of the Army that may be important to defining the Army's culture. These include:

- Chances for adventure and travel
- Opportunities for self improvement
- Personal freedom
- Rules and regulations
- Job security
- Physical challenge
- Being taken care of
- Respect for authority
- Opportunity to develop skills
- Opportunity to serve your country.

Individual and Family Characteristics

The attributes of individuals and families obviously have a major impact on retention decisions. These are the filters through which policies and benefits are interpreted and job and community conditions are experienced. They explain why some factors are important for one segment of the population, but not for others. Three categories of factors are included in the model: family demographics, individual demographics, and values.

A. Family Demographics

The family life cycle has been demonstrated to have a significant impact on many measures of satisfaction. More importantly, as all of the supporting papers in the appendices suggest, family life cycle variables mediate the importance of other factors in the model in predicting retention. For example, pay variables may have differential importance to singles versus marrieds; the availability of child care services may be more important to families with young children; frequency of PCS may be more of a concern to soldiers with older children.

Appendix C contains a brief review of the literature on family life cycle. Key variables to incorporate include:

- Marital status
- Years married
- Presence, age, and number of children.

Many of the relationships between these variables and other factors in the model appear to be curvilinear, and thus require special care in modeling. For example, as indicated in Appendix C, several recent studies in both the civilian and military sectors found that marital satisfaction is high among young couples, declines after the birth of the first child until children leave the home, then increases during the post-parental stage. Family life cycle variables have also been shown to interact with career life cycle variables, particularly in recent studies of postponement of marriage and childbirth and mid-life career path changes.

B. Individual Demographics

Some of the key individual demographic variables identified in the retention literature include:

- Rank
- Years of service
- MOS
- Sex
- Race/ethnicity
- Education
- Presence of second job
- Dual military career.

Demographic characteristics of spouses and children would also be included here. Key factors that may affect family interaction and satisfaction with military life would include the presence of special needs children or a foreign-born spouse.

C. Values

In addition to objective demographics, a more intangible set of personal and family characteristics influence the operation of the retention model. These values and psychological traits also mediate the impact of selected variables in the model. For example, the paper on job factors (Appendix B) points out that ability and self-motivation levels mediate the impact of job content on job satisfaction (i.e., challenge and variety productively motivate some individuals, but may produce frustration and anxiety for others). Similarly, expectations about togetherness in family life influences the level of satisfaction with family life in the Army. Some of the key value factors identified by the panel include:

- Expectations (about family life, rewards, achievement, job definition, etc.)
- Motivation
- Role orientation
- Security needs
- Self esteem
- Propensity to organizational commitment
- Patriotism.

Economic Benefits (3)

Economic benefits are determined in part by Congressional and military policies and in part by the external labor market. The key variables to be included in the model are taken from the ACOL model described in Appendix A. Three categories of benefit are included.

A. Wages and Benefits Differences

Included in this category are present and expected differences between military and civilian benefits in such areas as:

- Basic pay
- Bonuses
- Supplemental pay
- Monetary value of fringes (e.g., health, housing, PX, child care)
- Investment opportunities.

Ideally, these elements would include consideration of second jobs and anticipated periods of employment, and would vary according to MOS.

B. Deferred Income Growth

This category covers expected military retirement income as compared to expected retirement or deferred income in the civilian sector.

C. Net Human Capital Formation

This category attempts to capture appreciated value of personnel in the labor market over the period of time of military service. Key variables to be considered are: training and education costs and net wage appreciation.

SPOUSE RETENTION MODEL (1-12a)

There is strong and consistent evidence that spouse attitudes significantly impact retention decisions (see Appendix C). From a strategic point of view, the implication of this finding is that the Army needs to identify the chain of variables that determine spouse support. Consequently, there is a need for a submodel for spouses that parallels the model for soldiers. This parallel model is represented by the rectangle labeled "Spouse Model."

The basic components of the spouse submodel (1-12a) would be identical to those in the soldier model, although the actual variables would vary somewhat and would, of course, capture spouse experiences and attitudes. For example, a separate ACOL model could be developed for spouses, thus permitting the development of a household decision-making model that is based on expected lifetime earnings and foregone opportunities for both husband and wife. In the community and family portions of the model, the spouse submodel would capture data on spouse support networks and spouse perceptions of the marriage, child relationships, and the desirability of the community. Past research indicates that these patterns and perceptions vary significantly from soldier patterns and perceptions. The design of a separate submodel for spouses is critical to the identification of appropriate policies and programs to influence spouse support for remaining in the Army.

Although the model indicates that spouse attitudes influence the soldier's overall assessment of the desirability of remaining in the Army (12), it is recognized that the two models are in fact far more interactive than is shown. Obviously spouse perceptions will affect member perceptions, and vice versa, at several levels (e.g., spouse satisfaction with the community influences member satisfaction). The arrow from box 1a-11a is intended to reflect the impact of spouse perceptions of satisfaction on member perceptions. For clarity of presentation, all of these inter-linkages are not fully depicted. Research will help to determine the importance of entering these effects into the model at stages earlier than box 12.

IV. DIRECTIONS FOR FUTURE RESEARCH

The model described in the previous sections is based on a quick, but fairly comprehensive review of the existing literature and the best thinking of an interdisciplinary, expert panel. The model breaks new ground in several areas, especially in its comprehensiveness and its integration of disciplines. It offers an opportunity to examine pay, job, family, community and culture issues and assess the proper relative role of each in retention decisions. Fully developed and validated, the model could significantly enhance the Army's ability to design policies and programs that would increase retention of valued personnel. Furthermore, if the significance of the role of families in the model is clearly established and quantified, it will help to institutionalize further Army support for its families as central to mission requirements.

At this stage, however, the model is both generalized and speculative. To be useful as a policy tool, it must be specified in much greater detail and tested for validity. As suggested at the beginning of this paper, the model provides a point of departure -- a framework to guide future retention research.

Although the primary purpose of the panel was to develop the conceptual model, the following section presents some preliminary thoughts on potential directions for future research on retention and the Army family. Five broad areas are discussed.

1. Specify and Refine the Model.

Each of the major domains in the model requires further specification. Activities would include:

- Clarification of the key variables included in each construct (e.g., the identification of the most promising Army policies and practices variables to consider);
- Identification of specific measures and data sources (e.g., relevant data bases on expected spouse earnings must be identified for the spouse ACOL; new scales must be developed and tested to measure comparative satisfactions).
- Analysis of existing data bases (e.g., the DoD family survey, the Air Force Family Support Center evaluation data, the recent Naval Personnel Research and Development Center family survey) to test and elaborate relationships proposed in the model and the supporting papers;

These activities, and the more intensive literature review required, would undoubtedly lead to refinements in the model as currently postulated.

2. Conduct Qualitative Studies of Retention and Family Decision-making.

In-depth, qualitative studies could further our understanding of how retention decisions are made, what factors are considered, who is consulted, and whose opinions are salient. These studies would help further model development and also help identify potential interventions. Such studies could also be useful in other areas of the model which are not yet well understood.

3. Test Model Through Longitudinal Studies.

There is a unique opportunity now to conduct the first major longitudinal study of Army families. Once the model has been fully specified, a longitudinal study, following panels of high performers and soldiers in critical MOS's at different stages in the family-career life cycle, might provide the best opportunity to test the validity of the model. The purpose of the study would be to establish and test the linkages between the variables and constructs included in the model. Linkages should be established on the basis of their utility in predicting retention behavior or significant precursors of that behavior. Such a study could also capture data necessary to determine readiness and performance impacts as well, once models in these areas have been developed.

4. Examine Nonrecursive Elements of Model.

The impact of the military on the family life cycle should also be examined to determine the adequacy of a recursive model. Currently little is known about how Army life affects the probability and timing of marriage and childbearing.

5. Conduct Experimental Interventions.

The model suggests various types of interventions that might be effective in increasing retention of various population segments in the Army. Experimental programs or policies could be designed to maximize soldier/family satisfaction in specific areas and enhance retention of valued personnel (e.g., youth-oriented programs designed to allow increased parent-child interaction and satisfaction with community as a good place to raise children). These programs could then be implemented under experimental conditions and evaluated.

As a final note, it is important to point out that future research to further this model will be complex and demanding. Coordination with related, ongoing and prospective research will be critical to maximizing the return on research resources and promoting the acceptance of the model. By coordinating closely with the

research and evaluation activities of the other Army and DoD organizations, such as the Army Community and Family Support Center and the Walter Reed Army Institute of Research, ARI can both conserve resources and multiply the potential for learning from research results by insuring complementary research projects and use of comparable units of measure across studies. Coordination with retention studies outside of the families arena will also contribute greatly to the task of testing a model as complex and comprehensive as the one proposed.

I. Overview of Previous Research and the ACOL Model

Economics -- one definition of which is the study of the efficient allocation of scarce resources -- has long considered decision-making based on individual preferences to lie near the heart of its subject matter. However, it was only in the early 1970s that econometricians such as Goldberger (1971) and McFadden (1974), building upon the work of psychologists Thurstone (1927), Luce (1959, 1977), and Tversky (1972a, 1972b), provided the formal theoretical models and econometric techniques necessary to adequately study individual choice across discrete alternatives. The result has been a veritable revolution in the form and content of applied statistical studies of individual decision-making in the social sciences. This is most directly associated with the now ubiquitous logit and probit models, but also extends to structural equation (path analysis and or LISREL) models incorporating discrete and latent variables. (For wide-ranging reviews of these literatures, see McFadden, 1982; Maddala, 1983.) Methods in this area are still under rapid development. To take one example, formal discrete choice modeling is only now being extended to events in continuous time (Olsen, Smith, and Farkas, forthcoming).

On the substantive side, these models are now being applied wherever interest centers on individual choice across discrete alternatives. These include labor force transitions (into the labor force, into employment, out of a particular job), educational transitions (school dropout, high school graduation, college attendance), demographic and family transitions (marriage, childbearing, divorce), and the demand for goods (purchasing a house or other good). To take one recent example, Manski and Wise (1983) have transformed the study of college-going behavior by the application of these methods to survey data. (See the review by Mare, 1985.) Thus it is not surprising that researchers have been quick to apply these methods to the study of military recruitment and retention. In the remainder of this discussion we focus on retention models. However, many of the points also apply to the study of recruitment.

Virtually all economic studies of military retention since the late 1970s have been based on the discrete choice models described above. And across these studies, one model is clearly dominant. This is the Annualized Cost of Leaving, or ACOL model.

We propose that ARI adopt this model, suitably modified, as an important part of its framework for research on career decision making and the military family.

The ACOL Model

The ACOL model was originally developed by John Warner at the Center for Naval Analyses, and much of its early use was directed at Navy retention (Warner and Simon, 1979; Warner, 1980; Warner and Goldberg, 1984). However, it has also been used for analyses across the services (Enns, Nelson, and Warner, 1984), and is the basis for recent modeling of Army retention (Daula, 1981; Daula

and Baldwin, 1984, 1985; Lakhani and Gilroy, 1984, 1985). A related, but more elaborate model of retention decision-making over time is the Dynamic Retention Model (DRM), originally developed at Rand to model Air Force retention, but now being applied across the services (Gotz and McCall, 1979, 1983, 1984; Fernandez, Gotz, and Bell, 1985). We will concentrate on the ACOL model since it is simpler to understand, and more readily lends itself to the kind of detailed empirical work envisioned in the current project. However, we may wish to reexamine the DRM at some future stage of the project.

As for the empirical connection between marital and family status and retention behavior, this has been examined in only a cursory fashion by previous investigators. Thus Warner and Goldberg (1984) report that, net of economic benefits and costs, married Navy enlisted personnel are more likely to reenlist than are unmarried personnel, a result we shall examine further below. This finding is corroborated for Army enlisted personnel by Lakhani and Gilroy (1984, 1985) and Daula and Baldwin (1984), but contradicted by the (much less sophisticated) analysis of Raney (1980). More important, none of these investigators gives detailed attention to the specification and mechanism of the marital and family status effects on retention, nor do they consider their proper interpretation. Providing a proper basis for such investigations is one of the primary goals of the present effort.

II. The Model And Its Justification in Detail

The ACOL Framework

In this section we present a modified version of the Annualized Cost of Leaving Model, drawing heavily on the discussion in Enns, Nelson, and Warner (1984). In general, this is quite a flexible model, which captures the key issues in over-time decision-making in a relatively simple way. It is applicable to either enlisted personnel or to officers; in the former case, the decision period is taken to be the three or more year enlistment obligation, while in the latter case, with continuous decision-making, the process can be modeled on an annual basis.

The Basic Model

An individual deciding whether to leave the military or to stay for at least one more period must compare the returns to leaving with the returns to staying. The essential complication motivating the ACOL model is that the latter will differ according to how long the individual chooses to stay. Thus, it may be that for some individuals, leaving immediately is superior to staying one more period, but staying for much longer than one more period is superior to leaving immediately (for example, as a consequence of long-term retirement benefits). Such individuals will choose to stay, and the proper modeling of their decision

requires that the benefits to staying be computed for them over each possible in-service time period, with the benefits from the optimal such time period entering into their calculation.

Formally, the difference between the returns to leaving immediately and staying for s additional time periods may be decomposed into four factors: wage differences (all immediate compensation differences, including reenlistment bonuses and the monetary value of fringe benefits), taste preference differences, deferred income growth (in particular, retirement benefits), and net human capital formation. We discuss each of these in turn.

If an individual stays in the military for s additional time periods, and then joins the civilian sector, the present value (at discount rate d) of his net wage difference from having joined the civilian sector immediately is

$$W(s) = \sum_{t=1}^s dt (mw(t) - cw(t))$$

where $mw(t)$ is the military wage at time t and $cw(t)$ is the civilian wage at time t .

Similarly, if T is the individual's taste preference for civilian over military service in any period (T can be positive or negative), and T is constant over time, then the total taste preference difference from staying s periods in the military before joining the civilian sector is

$$P(s) = \sum_{t=1}^s dt T.$$

Note that as above, the summation is only over time periods 1 to s , since after s periods the two strategies (immediate and deferred leaving) are the same.

The deferred income growth term represents the growth in the present value of deferred military income from remaining s additional years. It is the present value of any annuity (such as retired pay) earned at time s , less the present value of any annuity already earned at the time of the retention decision:

$$D(s) = \sum_{t=s+1}^{t'} dt (Rs(t) - RO(t)) - \sum_{t=1}^s dt RO(t)$$

where $Rs(t)$ is the annuity at time t from leaving the military at time s , and $RO(t)$ is the annuity at time t from leaving the military at time 0.

Finally, net human capital formation represents the increase in total civilian monetary and non-monetary earnings from serving s additional years in the military rather than these same years in a non-military occupation:

$$V(s) = \sum_{t=s+1}^{t'} dt (cws(t) - cw0(t))$$

where $cws(t)$ is the civilian wage at time t resulting from staying in the military for s periods, while $cw0(t)$ is the civilian wage at time t from leaving the military immediately (time 0).

With these definitions, the ACOL model is defined as follows. The individual will stay if there is at least one horizon s over which the returns to staying are greater than the returns to leaving. That is, if

$$W(s) + D(s) + V(s) - P(s) \geq 0.$$

Define the cost of leaving, $COL(s) = W(s) + D(s) + V(s)$, to be the measurable components of the difference between the returns to staying s periods and the returns to leaving -- everything but taste preferences. Then the individual will stay if

$$COL(s) \geq P(s) = \sum_{t=1}^s dt \cdot T = T \sum_{t=1}^s dt = T/D$$

where D is a constant that converts a capital or present value into an annuity paid over s years at a discount rate d . This is equivalent to

$$D \cdot COL(s) \geq T.$$

The value $D \cdot COL(s)$ is the annualized cost of leaving military service now rather than remaining s more periods. We will call this $A(s)$. The period of service that provides the maximum value of $A(s)$ is s^* . For an individual to be retained in the military, the maximum annualized cost of leaving, $A(s^*)$, must exceed the individual's preference for non-military activities.

A Modified Model

Only one modification is required to adapt this model to the needs of the present project. This involves the taste preference difference variable, $P(s)$. As typically presented by economists, this involves only unmeasurable taste differences across individuals. All measurable taste differences are assumed to be pecuniary, and are folded into $COL(s)$. Instead, we will explicitly acknowledge individual satisfaction differences flowing from job satisfaction, community satisfaction, satisfaction with organizational culture, and family satisfaction, as well as the potential dependence of each of these and the elements of the $COL(s)$ on marriage and family status. Then the measurable components of $P(s)$ join $COL(s)$ on the left hand side of the retention inequality, the unmeasurable components of $P(s)$ are on the right hand side as before, and the

modeling may proceed as previously.

In fact, such a strategy has already been adopted by economists Warner and Goldberg (1984), Daula and Baldwin (1984) and Lakhani and Gilroy (1984), each of whom enters marital or dependent status alongside the ACOL term in their empirical retention equations.

Empirical Implementation of the Model

Estimation of the model presents many real-world issues and difficulties. These include measurement of each of the independent variables (the constituents of the ACOL, including psychological and sociological variables), the role of other variables such as MOS, the time horizon to be assumed for the optimizing individual, data sources, and the nature of the statistical model to be employed. We discuss each of these in turn, giving greatest attention where competing alternatives are most complex and important -- measurement of the variables.

Army/Civilian Wage Differences

Military pay includes basic pay, bonuses, supplemental pay, the monetary value of fringes (health, housing, PX, travel, PCS reimbursement, TDY pay, recreation/club and so on), and investment opportunities or those foregone (for example, any limits on home ownership as a consequence of overseas posting), expressed in real times (net of the price level). These are to be calculated for all future time periods, and compared with comparable calculations for civilian employment so that $W(s^*)$ (see above) can be computed and entered as a component of the ACOL to predict retention.

Previous empirical work has introduced a number of simplifications, many of which we shall also adopt. One simplification concerns the time horizon over which the ACOL is calculated; both Warner and Goldberg (1984) and Daula and Baldwin (1984) restrict it to the four year reenlistment horizon for enlisted personnel. This greatly simplifies computation of the ACOL, at the price of completely ignoring longer term considerations such as retirement benefits (see below). This may be appropriate for first term enlisted personnel; it definitely is not appropriate for certain other personnel categories. Decisions on this matter will therefore be made on a case-by-case basis, depending upon the rank and time in service of the individuals whose retention is being modeled.

As for the military pay variable itself, its measurement should be straightforward. Daula and Baldwin (1984: 27-28) report that "the military pay variable used in our models was based on pay and bonus data in effect during the sample period and upon a statistical model of the time to promotion to higher rank that a soldier might expect during the second term of service if he reenlisted." A similar approach was adopted by Warner and Goldberg (1984: 30): "The expected military pay stream was calculated using a recursive dynamic programming algorithm.

Imbedded in this algorithm were promotion probabilities dimensioned by paygrade and length of service.." Similarly, Lakhani and Gilroy (1985: 12-13) report that "data were obtained primarily from Defense Manpower Data Center's Enlisted Master File (EMF) for fiscal years 1980 and 1981..The amount of the SRB..was calculated from the product of the MOS multiple, monthly basic pay, and the years of additional obligated service for each serviceman..The estimation of SRB for separatees and estendees was based on the assumption that they would reenlist for an average term in their specific Career Management Field..Military pay is denoted by Regular Military Compensation (RMC) and is comprised of basic pay (obtained from individual records in the EMF) to which were added basic allowances for quarters and subsistence, the variable housing allowance, and the federal tax advantage. RMC was adjusted with respect to pay grade, years of service, and marital status." It will be particularly important to achieve accurate measures of the selective reenlistment bonus, since many studies show it to be a powerful determinant of reenlistment (Warner and Goldberg, 1984; Hosek and Peterson, 1985; Lakhani and Gilroy, 1984).

We will follow Lakhani and Gilroy in costing out and explicitly including the value of fringes in the ACOL wherever possible. Indeed, we hope to surpass previous researchers in our attention to the dependence of these values on marital and family status. However, we also wish to estimate the retention effects of policies and circumstances which are not easily priced. For example, overseas postings of various types, and their effects on personnel of various marital and family statuses. An analogous issue was addressed by Warner and Goldberg (1984), who examined the effect of sea duty on retention. Their solution to estimating the independent variable was to attribute to an individual the average quantity of sea duty experienced by personnel in his MOS. We may wish to entertain an analogous strategy for certain nonpecuniary benefits and costs.

A related issue concerns the extent to which we seek to explicitly cost out the benefits and costs of alternative family statuses under present Army policy, and include these monetary values in the ACOL. We believe that this should be done to the maximum extent possible, but it is then important to note that any observed effect of the marital status variable must be acting through benefits and costs not already explicitly measured. Thus, as reported by Warner and Goldberg (1984: 32-33): "...married individuals reenlist at a higher rate than single persons. This difference appears to be quite stable across occupation groups. Recall that our pay variable already took account of pay differences arising from marital status. Therefore, these estimated differences between the reenlistment rates of married and single personnel must be due to factors other than the direct pay differential between married and single personnel. While rather speculative, we suggest that these estimated differences probably reflect the greater value of non-pecuniary benefits to married personnel, a major one being the availability of health care for dependents."

As for the estimation of civilian pay, several strategies

have been employed. Lakhani and Gilroy (1985) directly estimate an earnings function from the National Longitudinal Survey Youth Cohort. Warner and Goldberg (1984) use an older and larger data set containing the civilian earnings of 12,000 enlisted personnel who left the military in FY1969. (See also Coopers and Lybrand, 1984.) Daula and Baldwin (1984: 22) endorse the latter strategy, but are concerned about selectivity bias in the estimates. We feel that either strategy may be useful, and that it may be possible to use estimates already constructed by others. However, if detail for the effects of different marriage and family statuses is desired, new estimates will be required.

Deferred Income Growth

Figure 1, from Enns, Nelson, and Warner (1984), shows the value of the ACOL as a function of years of service. The authors note that at the first-term re-enlistment decision point the individual's time horizon lies within the period of a 3-6 year reenlistment, but that at later reenlistment points the time horizon invariably encompasses the 20-year point. This is of course due to the large sums involved in military retirement pay, and suggests that this variable must be explicitly included in any estimation undertaken for individuals beyond the first term. This can be computed and entered into the retention estimating equation in much the same manner as the pay variable above. For details regarding this variable see Cooper (1981), Office of the Actuary, DMDC (1982), and Fifth Quadrennial Review of Military Compensation (1984).

Net Human Capital Formation

Despite the obvious importance of training costs and opportunities in individual decision-making regarding Army enlistment and retention, few studies have explicitly included these in the retention equation. An exception is Lakhani (1985), who employed data tapes from the Army Finance and Accounting Center to obtain average training cost data by MOS. We may be able to directly use his estimates, or to undertake further estimation with his data. Alternatively, net human capital formation can be estimated by calculating wage appreciation schedules in the military and civilian sectors.

The Role of Other Variables

Variables not a part of the ACOL will be entered alongside it as predictors in the retention equation. Some of these, such as family status, will also be interacted with the other variables (ACOL included). That is, we will estimate the extent to which the retention effects of these variables differ across family status categories.

The MOS variable may require special treatment. Lakhani and Gilroy (1984, 1985) estimate separate retention equations across MOS. On the other hand, if we adopt the Warner and Goldberg (1984) strategy of using MOS as an indicator of certain

non-pecuniary policies and experiences, MOS groups will have to be pooled together for the purposes of estimation.

The Time Horizon

Warner and Goldberg (1984), Daula and Baldwin (1984), and Lakhani and Gilroy (1984, 1985) all employ a very short time horizon, which greatly simplifies calculation of the ACOL. However, as noted above, this should be avoided for individuals beyond the first 3-6 years of service. Further difficulties are introduced when the effects of family status are introduced. For example, how should we project future family statuses? The likeliest solution is to use averages for individuals with similar characteristics at later years of service, estimated from Army records. However, this may prove to be a problem for some groups. For example, there may be too few years of data to provide adequate projections of later service years for female personnel. These issues will be addressed on a case-by-case basis as the project progresses.

The Spouse ACOL

We have already assumed that spouse pay, benefits, deferred income growth, and net human capital formation will be considered for inclusion in the ACOL model. Such inclusion would represent a considerable improvement in the model's realism. However, an even greater improvement would result if the spouse's ACOL were computed as a separate entity in its own right, and the two ACOL's (husband's and wife's) were then combined within a model of household decision-making. This might draw from the labor economics and demography literatures on household labor supply functions over the life cycle, and might even go so far as to consider marriage, divorce, and childbearing decisions as jointly determined outcomes with the army retention decision. Empirical implementation would not be easy -- problems include measurement of military spouse civilian earnings, training and experience foregone, the opportunities for these while married to Army personnel, and the way these variables affect, and are affected by, marriage, divorce, and childbearing decisions. Further, one would wish to explore these issues against the backdrop of changing national demographic trends (for example, the aging of the baby boom, and currently late ages at marriage and patterns of delayed childbearing). Nevertheless, such investigation offers potentially large returns in understanding the army family and its role in retention decision-making.

Data and Models

A variety of data sources covering both civilian and military economic opportunities have been utilized by previous investigators (see above), and we anticipate little difficulty in building on these efforts. We do feel it important to maintain

the economists' emphasis on revealed behavior rather than individual speculation. That is, the dependent variable should include actual retention or attrition decisions, rather than self-reported intentions.

As for statistical models, we anticipate following the researchers we have cited in utilizing logit and probit analysis to estimate ACOL models. Eventually, however, we should consider the Dynamic Retention Model. As described in Fernandez, Gotz, and Bell (1985), it is clearly capable of providing a more realistic simulation of the over-time effects of policy interventions. However, estimating this model is complex, and would present impediments to the multivariate modelling which lies at the heart of the current project.

Strength of the Effects in the ACOL Model

As noted above, we have relatively little choice in adopting the ACOL model -- previous research by economists has converged on it for both theoretical and practical reasons. However, it is important to note that this research has also demonstrated quite good empirical results. Thus, Warner and Goldberg (1984), Daula and Baldwin (1984) and Lakhani and Gilroy (1985), among others, all report highly significant t-statistics in the expected direction for economic variables, and large elasticities (sometimes exceeding 1.0) for these variables. In addition, when added alongside such variables, family status has already been shown to be a significant predictor of retention. These results provide a solid basis from which to go forward toward a more detailed understanding of family factors in Army retention.

III. Relationship of the ACOL Model to the Overall Retention Model

Economic satisfactions are but one of the forces determining retention; the others considered in this project are community satisfaction, satisfaction with organizational culture, job satisfaction, and family satisfaction. Economic forces can be expected to affect retention both directly, and also indirectly as they act through these other variables. For example, economic pressure may lead to family tension, which is itself a cause of poor performance and attrition. These indirect effects will be modeled via regression analysis in the standard path analysis format. Including the noneconomic variables in the retention equation alongside the economic variables will permit decomposition of the economic effects into those that are direct, and those that are indirect (Pindyck and Rubinfeld, 1981: 128-131).

On the other hand, noneconomic variables may also determine the value of economic variables. Thus, as noted above, family status is a major determinant of the ACOL. These relationships will be explicitly estimated, and multiple regression will permit decomposition of family and other effects on retention into that portion which act directly, and that portion which act

indirectly, through their effect on the economic variables.

Finally, we note that the ACOL framework, involving as it does a notion of optimal decision-making over time, can provide an umbrella encompassing both economic and noneconomic effects. We recommend that this project follow the lead of the literature cited above, and employ the ACOL model as a theoretical framework for the model of individual decision-making regarding Army retention.

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Factors Leading to Army Retention:

Related to the Job Itself

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I. Overview

A. Conceptual perspective

1. Some salient circumstances peculiar to the military setting.

Here we will be concentrating on those aspects of the career decision process that derive from individuals' expectations and experiences that relate to the "work itself"--the job(s) to which a person is assigned--and to the "job context"--the factors in the immediate work environment (physical and personal) that impact most directly upon the work that an individual does, and how s/he does it. These expectations and experiences may affect a multitude of needs, attitudes, activities, and outcomes at almost any point in a person's occupational life history. Our particular concern, it should be reemphasized, is with the satisfactions and dissatisfactions that are engendered over time, and which may have different complexions and compositions at the different stages of work and life experience that enter into the cognitive and affective processes that determine the individual's intent and formal commitment to stay in or get out of the Army.

Peculiar to the military is the circumstance that enrollment in the institution (Army) and in the job/occupation is very closely related. Except in relatively rare instances, if you are unhappy in your job or line of work/occupation (MOS), to change your job/occupation it is generally perceived that you must disaffiliate with the institution/organizational entity--the Army.

If you want to change your line of work you must make a major alteration in your "way of life" (from military to civilian). Giving added emphasis to this linkage is the contractual relationship that imposes a demand for categorical choice at specified points in time. This distinguishes the military career decision from nearly all civilian occupational decisions, which do not typically "force" a decision to be made. One must acknowledge here that terminations during enlistment contract periods do occur "at the discretion of the Army." However, many who have been released under this option have executed some not so subtle maneuvers on their own to get the Army to exercise that option with "mutual" satisfaction in the outcome. Officer enrollment, especially after the first period of obligated service, is made nearly like civilian professions.

Commitment tends to be associated with participation and degree of influence that can be exerted--at work--in home. Implicit is the assumption of situational stability that implies predictability. The military command structure, regulations and SOP, built-in turnover of membership and command (and idiosyncrasies of same) tend to make more salient the formal contract with the institution than the psychological commitment rooted in the work group affiliation. This makes it harder to identify with the impersonal institution than the more intimate work group.

Given that career researchers and career counselors continually echo the observation that five significant shifts in career direction or a person's occupational history is more typical than unusual in civilian life, and the impression that comparable studies (which are needed) would show a distinctly lesser number of occupational shifts among long-term military careerists, the proposition is advanced that if it were possible to incorporate more flexibility--more opportunities/options to make revisions in career decisions/plans within the Army system--retention would be enhanced.

In civilian life, considerable occupational sampling and experimentation

characterize a young person's experience pool. And this may continue for a considerable number of years (into the 20's and 30's), determined by adventitious circumstances and/or deliberate decisions. So we note a rather consistent finding that turnover is more frequent among younger or less tenured employees (e.g., Mobley, et al., 1979). In other words, the civilian has considerable opportunity to incorporate experience content into career decisions, and life content and quality choices in general, over a considerable number of years, before he becomes "locked in." In the Army s/he tends to be (or feel) "locked in" much earlier--with more alternatives linked to "getting out" than "staying in." Illustrative of this point is a study of a subsample of 30 year old veterans in Project TALENT's longitudinal study. Wilson and Flanagan (1974) found that "...although a number of men report that their Army experience had a good effect which relates to their occupational role, many more feel that the experience could have been much more beneficial to them if they had made, or been able to make, a selection of training more in line with their interests and abilities" (p. 130).

Also peculiar to the military situation is an "unlimited liability contract." That is, work life and non-work or home life do not have largely separate orbits, as in civilian life; in military life the orbits are essentially concentric and overlapping.

2. Theoretical orientations and issues.

"Job satisfaction has probably attracted more research than any other variable in the field" [of organizational behavior], says Staw (1984, p. 630). In 1976, Locke (1976) reported a count of more than 3000 studies involving job satisfaction. It would not be surprising to find another 1000 reported since then. Turnover studies in particular have accounted for over 1000 articles (Mobley, 1982; Price, 1977; Steers & Mowday, 1981).

The meaning of "job satisfaction" is substantially determined by the conceptual framework of motivation into which the component "job satisfaction" is incorporated. Theories of motivation tend to fall into two generic categories. Need theories are typically generated by those whose orientations are clinical and social, built upon assertions of requirements for satisfaction inherently common to all people, including a hierarchy ranging from deficiency needs (physiological, safety, belongingness) to growth needs (esteem, self-actualization). The emphasis is upon display of sensitivity, responsiveness and accommodation by management and modification of organizational behavior to satisfy individual needs (e.g., Maslow, 1954; Alderfer, 1969; Murray, 1938). Instrumentality (or cognitive) theories give more attention to means initiated mostly by management, to modify individual behavior by manipulation of those conditioning factors which are subject most largely to organizational control in order to advance organizational purposes. Prominent among the instrumentality theories are those that focus upon equity, goal-setting, and expectancy/valence relationships. Equity theories (e.g., Adams, 1965; Weick, 1966) are rooted in individuals' comparisons of how fairly they are being treated as compared to other persons or groups prominent in their perceptual field. Goal-setting theory (e.g., Locke, 1968) has as its basic premise that behavior is cognitively determined by values and intentions (or goals), with values (what one regards as having personal worth) governing the selection of desired outcomes (goals) and the energizing of efforts (task accomplishments) to attain them. Expectancy theory (e.g., Vroom, 1964; Galbraith & Cummings, 1967; Porter & Lawler, 1968; Campbell, et al, 1970) regards performance and satisfaction as, deriving from a person's beliefs about the probabilities (0 to 1) that particular levels of effort and performance involved in instrumental behavioral acts will lead to particular outcomes, with valence representing the value placed on available outcomes. Campbell and Pritchard (1976) have argued that concepts of equity and

goal-setting can be subsumed within the framework of expectancy theory.

Instrumentality theories by-and-large have the greater appeal to management, civilian and military, because they deal with variables most readily accessible to the organization's control and manipulation, and because "motivation" bears a connotation for management that is purposive and utilitarian in that some criteria of organizational effectiveness are "givens." Thus, for example, interest in motivation and satisfaction reflects a continuing need of the Army to reduce turnover and retain certain kinds and qualitative levels of officer and enlisted personnel. Analogously, Herzberg, et al (1959) have distinguished between two sets of satisfiers: "motivator factors" that are intrinsic to the job itself--such as achievement, recognition, responsibility, advancement and personal growth; and extrinsic "hygiene factors"--like salary, physical environment, company policies, supervisory style, and relations with subordinates, peers, and superiors.

It is the first group of intrinsic, task-centered factors the author has been charged to address particularly. The second group embraces the other provinces of satisfaction into which this model building and planning document has been partitioned. However, in staking out our territory, the strong caveat must be asserted that the cognitive distinctions are more apparent than real, since the boundaries are quite permeable and considerably overlapping, with substantial interactions among the variables contained in the respective sectors.

Hence, while we will concentrate on intrinsic factors in our exposition here, we will inevitably also have to take into account those factors that some have coded as extrinsic which interact strongly with the perceptions of and reactions to the "work itself," which term we will use to refer to the tasks involved and the immediate work environment.

B. Model development

In formulating a rationale and a model to explain sources of satisfaction/dissatisfaction with the "work itself" that relate to retention, our basic orientation is to center attention on the components and stages of the career decision making process, when the choice to stay in or leave the service (immediately or prospectively) becomes a salient concern. We seek fuller understanding of what enters into the affect and cognition, and how it is perceived and processed by the decision-makers (the soldier and those close to him or her) at different stages of experience, socialization and personal development; and cumulatively. To keep the exposition within manageable limits, while acknowledging that specific differences may exist for men and women, and for officers and enlisted personnel, we are prepared to assume that the basic processes are essentially the same and that the differences among these groups (or for that matter, any subpopulation segment) are differences in degree rather than differences in kind of variables and processes involved. It also seems reasonable to limit our attention to voluntary turnover; the decisions of the soldier to stay or not, rather than the decisions of the Army to keep or not. The latter set of decisions for planning and systems management become determinants of target segment definitions and design of action/intervention programs.

To begin with, it is useful to map the territory in which the work itself is set—the tasks performed and the people, data and things most directly involved in those tasks. For this purpose we can start with Figure B-1, drawn from Steers' (1984) adaptation of Nadler, Hackman and Lawler (1979), showing the major classes of variables interacting to influence organizational behavior and design. Most relevant to job satisfaction per se are: within the individuals sector, personnel variables that the worker brings to the job and that are modifiable in varying degrees by training--skills, values, interests, attitudes,

A conceptual framework for understanding organizational behavior

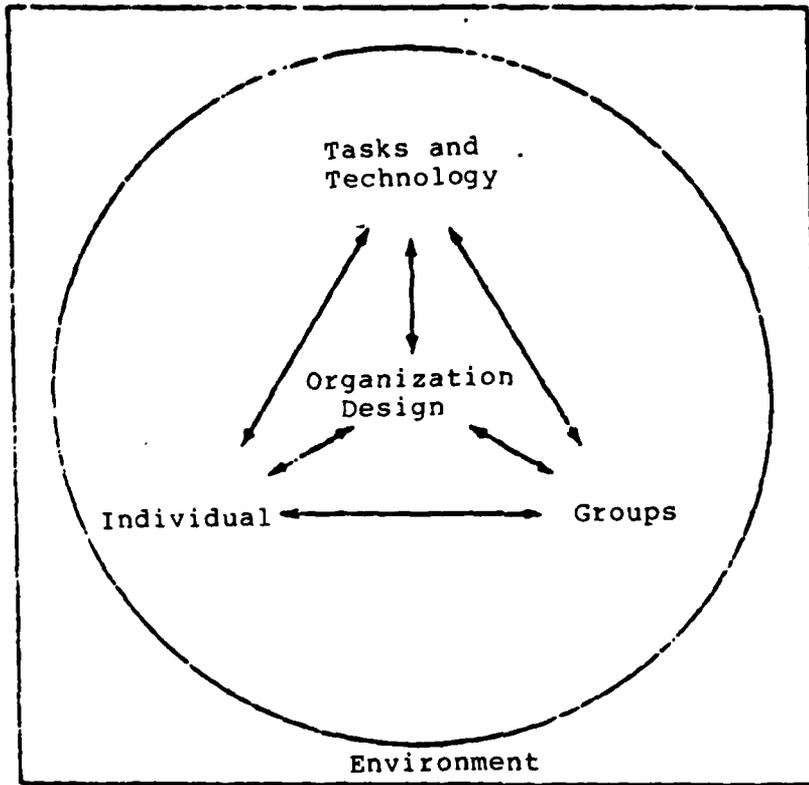


Figure B-1. A conceptual framework for understanding organizational behavior.

personality; within the task-technology sector, the task characteristics, and the characteristics of tools and equipment used--the components that can be modified by engineering design, identifiable as human factors or engineering psychology variables; and, in the group sector--those elements that are immediately involved at the work site; the people and people interaction variables which are subject to some degree of change through management intervention and organization maturation. These sets of variables interact with one another and ultimately give rise to the overall organization system and component subsystem (work unit, team, job) design, structure and processes.

All of these variables are interdependent and involve further exchanges of energies and inputs with the surrounding environment. The precise nature of the relationships, of inputs, throughput and outputs can be expected to change over time as the result of individual, group and organizational evolution and maturation and in response to environmental changes. These undergo a series of cyclic transformation processes in which inputs undergo throughput activities that produce new sources of inputs (Katz & Kahn, 1978; Steers, 1984). With systems evolution and maturation there is a tendency toward specialization of function and elaboration of roles.

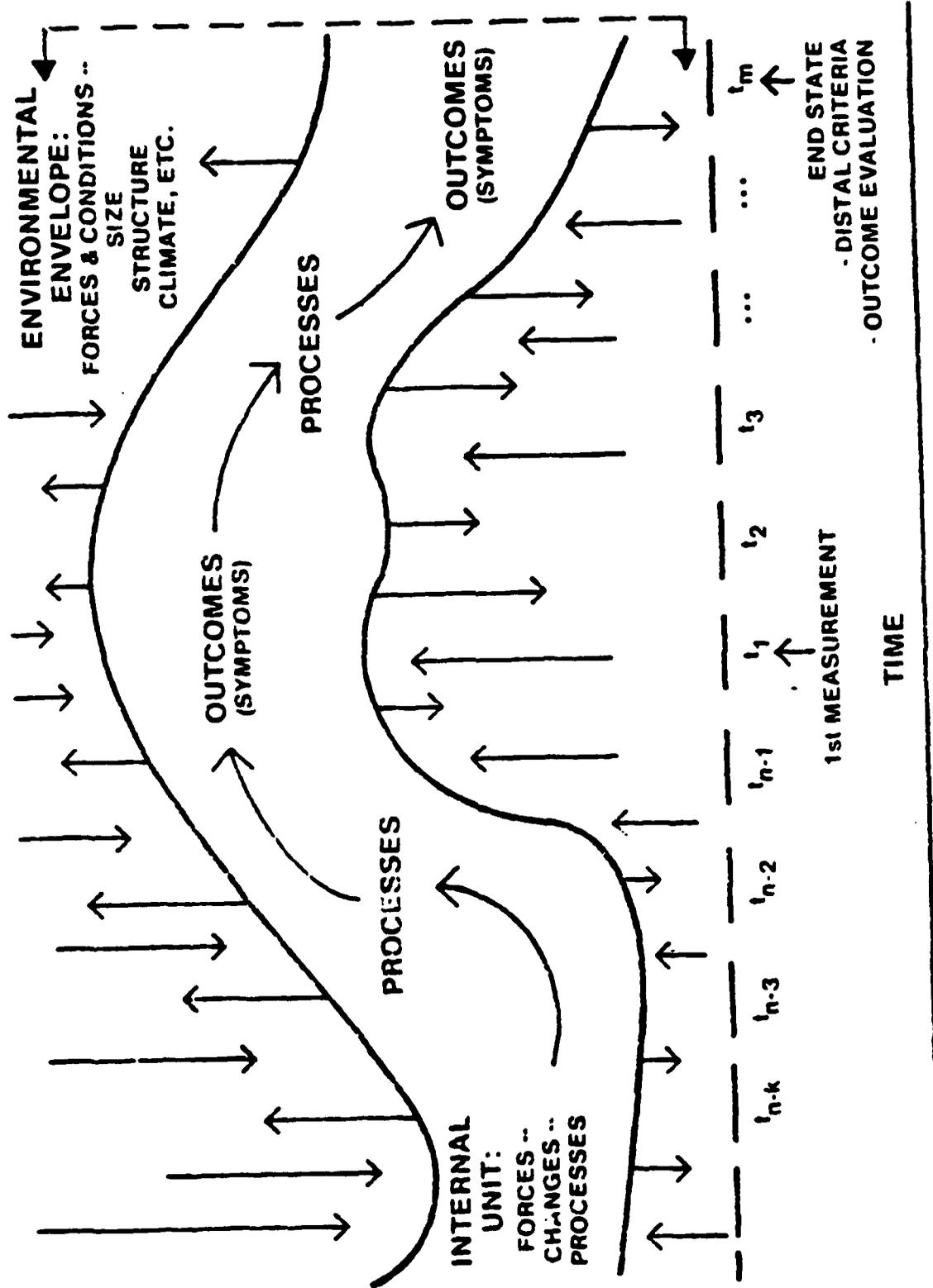
Because conceptual models are published in two dimensional form, they are usually stop-action slices of life and time that show only one cycle of a continuing and often changing process. Changes over time in dynamics of the processes depicted by models have been more difficult to make schematic and explain. So, for example, since a satisfied need ceases to be a motivator of behavior (Katz & Kahn, 1978) the system effects promptly become complex and multidimensional, and too complex to be represented by a cross-sectional slice on single cycle of process. Something more akin to time-lapse photography is called for to capture the essence of the phenomenon.

The dynamic organizational change model in Figure B-2 is an effort to meet the need (Glickman, et al, 1977). We will not elaborate greatly upon it, but simply use it to call attention to the continuity of change characterizing the ongoing process-outcome flow. One may visualize the internal unit as a "river" with variations in width and depth and flow of multiple currents; as a tube enveloped all around by a multifaceted environment, in which the slice of time models are linked action sequences that are cross-sections of the tube. Thus, Figures B3 and B4 can represent cross-sectional perspectives of the Figure B-2 tube.

On the whole the influences that will have the strongest valences will be those that emanate from sources most proximal to the worker and work place. Figure B3 seeks to reflect the notion that the more distant the source from which an influence/control attempt is generated the more its energies are spent and diffused en route to the work place (Glickman, et al, 1978).

While a multitude of existing models might be adaptable for our present purposes, since our point of departure is the job/work itself, the job characteristics model of Hackman and Oldham (1976) seems most suitable as a point of departure and to serve as a core model (Figure B4). Figures B-3 and B-4 can represent cross-sectional perspectives of the Figure B-2 tube.

The job characteristics model defines a prominent space in the psychological field of the work site. It can be visualized as residing within the tasks and technology sector of Figure B1. Now let us extend our explanations to the social/group/organizational context and physical environment factors that may be presumed to modify or interact with the components of the job characteristics model.



DYNAMIC ORGANIZATIONAL CHANGE MODEL

Figure B-2

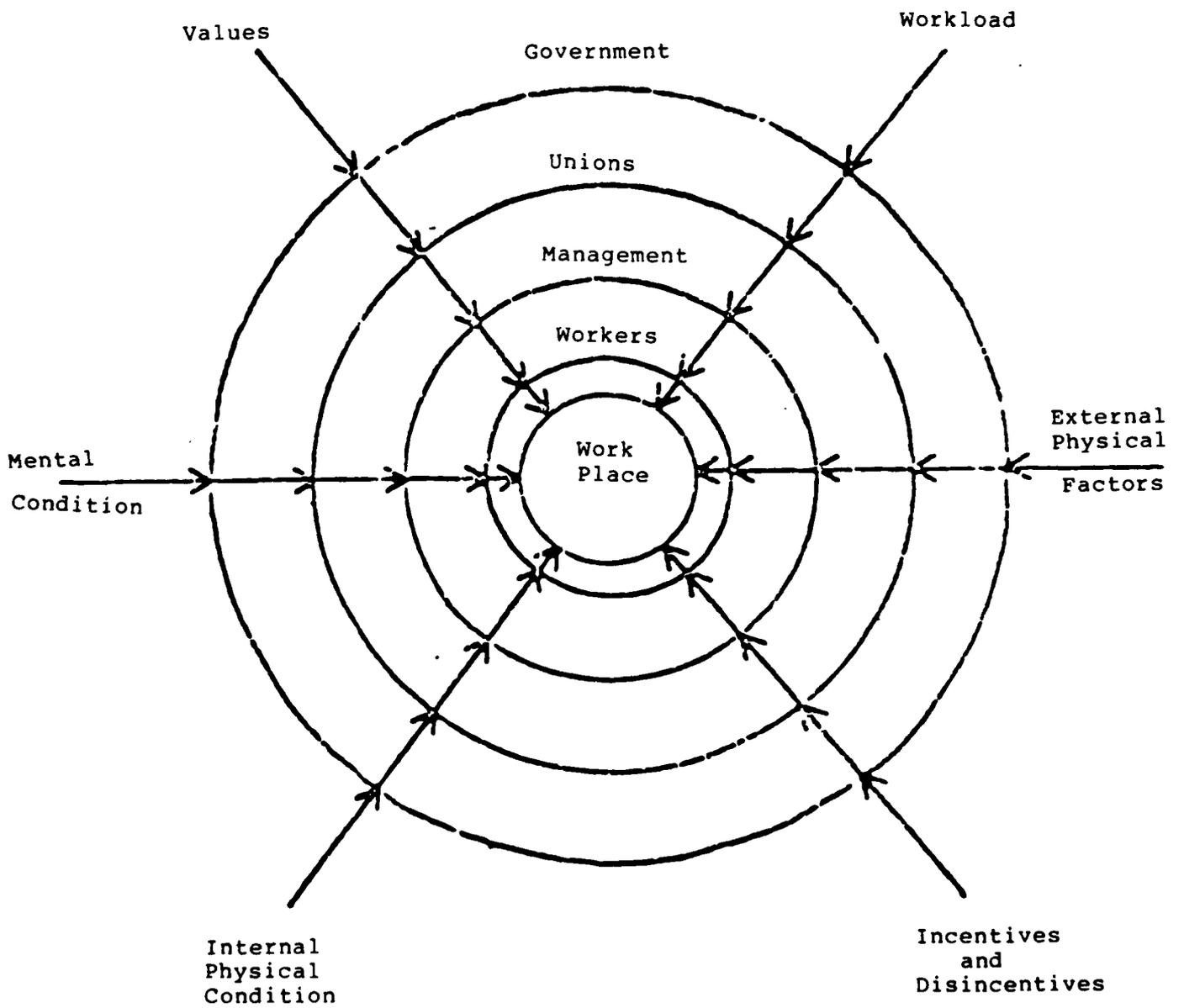
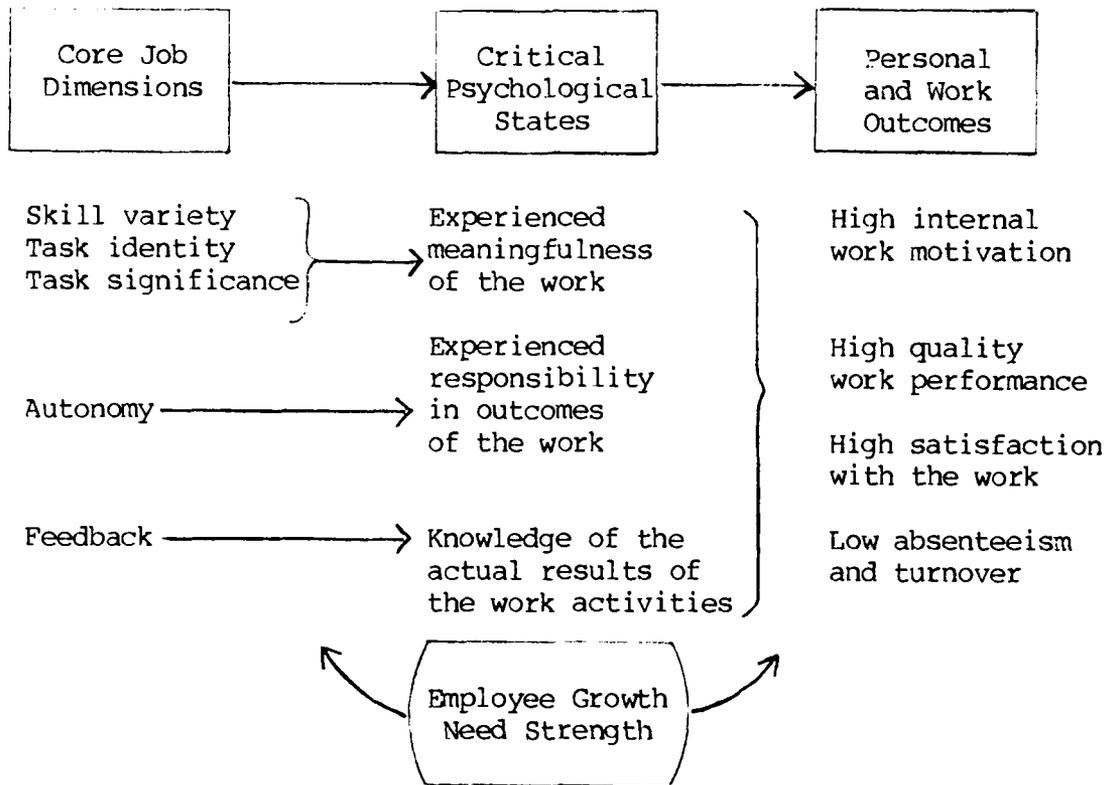


Figure B-3. "Person-Centered Influences" model

Figure B-4. The job characteristics model of work motivation
 (Hackman and Oldham, 1976)



Into this field, the individual brings the skills, values, interests, attitudes, and personality developed to date. We will take it for granted that innate and acquired individual differences will be found in any work group, and that these kinds of variables act upon and are acted upon by motivation and satisfaction factors. Therefore, we will not engage in a detailed discourse on individual differences. Sufficient to say that individuals with various sets of personal characteristics are the targets of the influences with which we are concerned and vary in susceptibility to those influences, and that our efforts here are primarily devoted to conceptualizing the processes by which such external influences can be employed to increase the motivations and the satisfactions that strengthen commitment to the organization.

Impinging upon the internal motivational dynamics model, which is essentially a need-fulfillment theory, are the influences emanating from the internal unit and the external environment (Figures B-1, B-2, B-3). In the physical realm are the sources of comfort/discomfort, health/illness, safety/hazard at the work site that facilitate or hinder performance and satisfaction; tools, equipment, temperature, illumination, surfaces, and so forth. The social realm is structured by who does what with whom, with what values attributed and communicated; again with possible facilitating and hindering consequences for performance and turnover.

The need-satisfaction and job characteristics-work redesign models emphasize individual dispositional and rational-decision making explanations for behavior rather than social situational factors. The social information processing perspective developed by Salancik and Pfeffer (1978) gives special attention to the effects of context and consequences of past choices. They point out how the process of attributing attitudes or needs from behavior is itself affected by commitment processes, saliency and relevance of information,

and by the need to develop socially acceptable and legitimate rationalizations for actions. Although "schools" have congregated in these two orbits, as Staw and Ross (1985) observe, it should be recognized that they both deal with the role of the influence of situational factors on job attitudes. We will refer readers to the source for the detailed exposition of social information processing theory, since in the end Salancik and Pfeffer pretty much come back to the same categories we have in Figures B-4 and B-5, although they more fully elaborate (than we can here) the perceptual filters and transformers through which values, beliefs and other sources of social information pass in shaping job attitudes and design of work. We will have more to say later about bringing the technical and social factors into convergence and optimal relationship.

The social forces operating most directly and forcibly upon the work itself as perceived by job incumbents are those that are provided by the interdependent members of the work team, in superior, subordinate and peer roles, and functional relationships. They provide through socialization processes the beliefs and values that become norms that determine the manner, style, and quality of work behavior sui generis, and by transmittal and reinforcement of institutional purposes, goals and standards. A further derivative of the social forces operating at the micro-organizational level within the "inner circle" of the work group or team is group cohesiveness; which, in turn, seeds organizational commitment at the macro-organizational level. "Group cohesiveness may be defined as the extent to which individual members of a group are motivated to remain in the group" (Steers, 1984, p. 234). "Organizational commitment refers to the strength of an individual identification with and involvement in an organization (Mowday, Porter, & Steers, 1982).

In a sense, group cohesiveness, may be viewed as an intermediate antecedent of organizational commitment wherein the micro-level experiences take on feeling tone which by affective generalization extends to the macro-level of the organizational field. In Figure B5 we bring together concepts and schemata from Cartwright and Zander (1968), Steers (1977, 1984) and Mowday, et al (1982). Here we begin the transit from the "inner circle" defined by job characteristics, embedded in the objective conditions and affective conditions of Figure B5, to the larger arena of the organization and society at large in which these job-related influences interact with those deriving from the contexts of the economy, culture, community and family.

Since the dynamics and influences supported by research are quite straightforward here, it is probably not necessary to get deeply involved in detailing and charting physical variables in elaborating a job characteristics model. It is probably sufficient to prescribe that "hygienic" efforts to "clear up" and "fix" the equipment and work spaces should precede and accompany programming of work redesign efforts.

Having now identified the conceptual framework and content and process variables at play in job satisfaction, motivation and commitment, by reference to Figure B6 from Mobley (1977), which is self-explanatory, one can sum up the decision-making sequence by which these variables and processes enter into quit/stay choices.

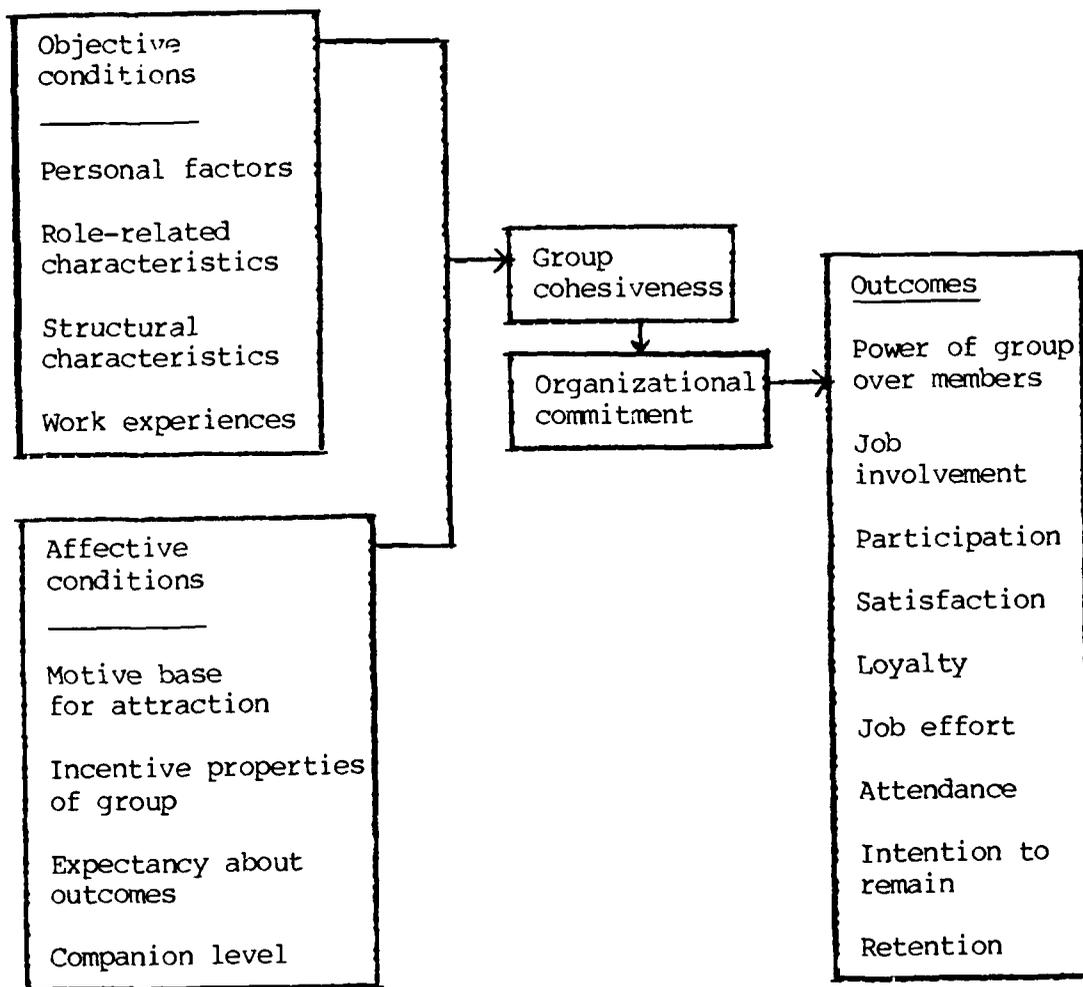


Figure B5. Antecedents/determinants and consequences of group cohesiveness and organizational commitment.

The employee turnover process

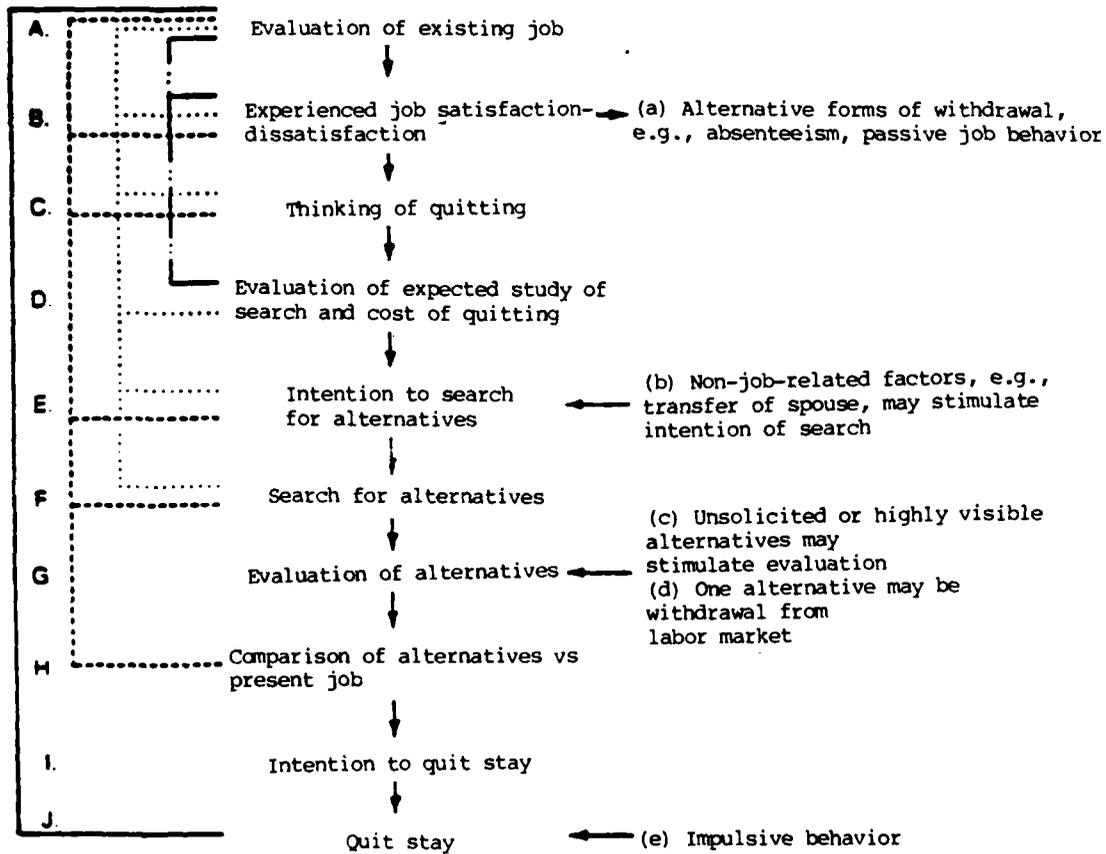


Figure B6. The employee turnover process

II. Model rationale

A. Overview

1. General rationale

The job characteristics model is action oriented. It addresses on-the-job influences upon motivation, performance and satisfaction as a forerunner of work redesign. Work redesign is an organizational change strategy--a systematic technique that can be useful for improving life at work. Hackman (1976) takes the position that, instead of debating about the nuances of various models, more progress can be made by combining various models of work redesign, a position to which we are inclined to subscribe.

Hackman (1976) advances four basic arguments for this approach. After discussion of the job characteristics of the work itself we will move on to consideration of the work group and the social psychological influences it brings to the work site; the individual's power (or lack thereof) to influence his work and welfare, and control his fate; and how all of these ingredients ultimately bear up on group cohesion, organizational commitment, and the decision to stay or leave the service. Then will follow a few notes on physical factors bearing upon the job.

B. Discussion of factors

1. Job characteristics/work redesign

Hackman (1976) advances four basic arguments for his approach.

(a) Work redesign alters the basic relationship between people and their jobs. The fundamental premise is that changes in the work itself can increase intrinsic motivation, and consequently affect performance and satisfaction appreciably.

(b) Work redesign directly changes behavior. The impact is directly upon behavior--what people do--instead of attempting to first change attitude with the hope that behavioral change will follow. The experience of greater intrinsic satisfaction from being able to do a better job becomes the antecedent of attitude change which, in turn provides built-in reinforcement that sustains the behavioral change.

(c) Work redesign opens opportunities for initiating other changes. It facilitates "unfreezing." The implementation of one change makes salient other needs and opportunities for change. Success in implementing one change elevates expectations and facilitates initiation of other changes.

(d) Work redesign can help the organization to humanize people at work. It can enhance feelings of personal growth resulting from more challenging activities--more creative work, greater responsibility.

"In short, work redesign offers the premises that organizations can develop work environments that challenge employees and make better use of their human resources. If properly carried out, work redesign can help managers facilitate organizational effectiveness while at the same time improving the quality of working life" (Steers, 1984, p. 363).

2. Key factors/constructs of job characteristics model

The job characteristics model (Figure B4) consists of four principal components. Five core job dimensions influence three critical psychological states which, in turn, impact a cluster of related personal and work outcomes. Moderating the process linking these three components is employee growth need strength. An outline of the process follows, based on Steers' (1984) summary.

a. Critical psychological states sought by individuals are:

1) Experienced meaningfulness of the work

--feels that the work is important, worthwhile, valuable.

2) Experienced responsibility for work outcomes

--feels personally responsible and accountable for results of work

3) Knowledge of results

"The model postulates that internal rewards are obtained by an individual when he learns (knowledge of results) that he personally (experienced responsibility) has performed well on a task that he cares about (experienced meaningfulness)."

(Hackman, 1976, p. 129)

b. Core job dimensions that activate those psychological states are:

1) Skill variety

--job requires activities that involve the use of a number of skills and talents

2) Task identity

--requires doing a unit of work from beginning to end with a recognizable outcome

3) Task significance

--requires appreciable impact on the life or work of others internal or external to the work unit or organization

These three dimensions are supposed to influence the experienced meaningfulness of work.

4) Autonomy

--degree of freedom, independence, and discretion accorded a person in carrying out tasks and making decisions.

5) Feedback

--obtaining direct and clear information about the effectiveness with which work activities have been carried out. Feedback influences knowledge of results.

According to the job characteristics model, the key to successful work redesign is construction of jobs that are high in these five core dimensions. Hackman & Oldham's (1976) questionnaire provides measures of these dimensions, from which a Motivational Potential Score (MPS) can be calculated that reflects how much employees regard their job as motivating.

$$\text{MPS} = \left[\frac{\text{Skill variety} + \text{Task identity} + \text{Task significance}}{3} \right] \times \text{Autonomy} \times \text{Feedback}$$

- c. Employee growth need strength (GNS) refers to higher-order needs (achievement, affiliation, autonomy) that moderate the way people react to the work environment. Thus employees with high GNS are more likely than those with low GNS to experience the desired psychological states when their jobs are enriched.

High GNS people also tend to respond more favorably than low GNS individuals to the psychological states when they do occur, since these states are more likely to facilitate satisfaction of higher-order needs (Steers, 1984).

Obviously, differences among target populations need to be taken into account when planning to alter job characteristics.

- d. Personal and work outcomes. It is expected that when people attain the psychological states that have been described the result will be higher internal work motivation, quality of performance, job

satisfaction, and lower absenteeism and turnover; not that these psychological states constitute the only variables affecting such outcomes.

3. Group cohesiveness/organizational commitment

Here we have combined the treatment of group cohesiveness and organizational commitment with the premise that the latter constitutes the larger context of which the former is a substantial part, and that the forces and processes operating to generate cohesiveness at the small group level are much the same as those influencing commitment to the larger organization, except that cohesiveness applies to people you know--those you work with--whereas commitment refers to a larger, more abstract, more depersonalized institutional identity, and that, while the forces affecting both interact and overlap to some extent, it is presumed that a threshold level of group cohesiveness is usually antecedent to organizational commitment.

4. Key factors/constructs of group cohesion/organizational commitment

Among the more objective factors commonly identified with higher levels of employee cohesiveness and/or commitment are the following (Steers, 1977; Mowday, Porter, & Steers, 1982).

- a. Personal factors: older and more tenured employees, women, and the less educated
- b. Role-related characteristics: enriched jobs and low levels of role conflict and ambiguity
- c. Structural characteristics: decentralized, more autonomous units
- d. Work experiences: feel organization is dependable and interested in their welfare, their jobs are considered important to organization, they are involved socially in organizational activities, their expectations have been met on the job

Affective conditions that influence extent of cohesiveness/commitment include the following (Cartwright & Zander, 1968):

- a. Motive base for attraction: needs for affiliation, recognition, security, etc., can be met by group(s).
- b. Incentive properties: goals, programs, member characteristics, management style, prestige that enhance identity.
- c. Expectancy about outcomes: feel that membership and involvement will be instrumental in achieving personal goals.
- d. Comparison level: perceived cost-benefit ratio of involvement in present group/organization versus other alternatives.

Examples of outcomes that appear in Figure B5 are rather self-evident consequences of the cognitive and affective processing of the foregoing.

5. Locus of control, powerlessness and alienation

Because of the relatively high level of built-in impermanence of work group composition at the duty station in the Army, attributable to routine rotations of assignment as well as departures from the service, a special circumstance is confronted. When considering what interpersonal aspects of his work make him dissatisfied and what changes might be made, a shoulder-shrugging reaction may be evoked by the assumption that "this too shall pass" because the parties concerned will soon be going their separate ways. Even when "things are good," the condition is deemed to be transitory, for the same reason. Hence, the premium is perceived to be put upon adaptations that are satisficing in the short term rather than optimal in the long term. Impetus toward attempting to exercise influence to generate changes of significance is low under these circumstances. Furthermore, the uncertainty as to what the future may hold, because of the many changes in one's work site and work group, inhibit generalizations to future settings based upon current experience; so that even

when an individual is "happy in his work," it may not enhance his commitment.

Similar perceptions characterize the immediately proximate supervisors involved, and incentives for experimenting with ways of increasing job satisfaction and for initiating change under local auspices are diluted.

As a consequence, for the greatest numbers of soldiers the locus of control for initiating and implementing change of any importance and endurance comes to be perceived as remote, impersonal and unreachable as an object of influence. The frustrations engendered may be further aggravated by the perceived conflict between the authoritarianism of the military which controls him at present and the democratic values and personal independence and influence associated with the "outside world". The remedy seen for what is considered unsatisfactory in the work situation is to leave it rather than to try to change it.

Nord (1977) observes that workers who feel they have less freedom and control on the job than they feel they should have (a power deficit) tend to become isolated (alienated) from organizational goals, to judge by research of Shepard & Panko (1974). These results, along with findings of Seeman (1972) and Form (1975) suggest that the sense of power deficit may be more important in determining experience of alienation than is their work itself. Control in the work place strongly influences one's self-image and feelings of efficacy (Nord, 1977; Israel, 1971; Kohn & Schooler, 1973; Seeman, 1972). As Salancik and Pfeffer (1978) note: "An important component of the process of commitment is choice (p. 245). The person who has no choice can explain his or her involvement on the basis of external pressures. We have been concentrating of the situation here, primarily as it affects the "masses." Naturally, as one enters the higher echelons of management one can exert more influence on "the system" and more control over one's own fate.

6. Job satisfaction is a term widely but loosely used. Here we know that we have been talking about job satisfaction. We know it is "good" or "high"

when it indicates that a person is positively disposed about some particular aspect or aggregation of aspects of work activities or relationships or expectations, and "poor" or "low" when a negative disposition is indicated. Most typically our information about satisfaction takes the form of an expression of attitude in response to a question like, "How do you feel about . . .?" It is from such self-reports of attitudes that a "statement of condition" is inferred, such as the conditions reflected in the model(s) we have been developing. Attitude responses are samplings of the affective condition existing in some domain of interest to those asking the questions. Expressions of job satisfaction are affective responses that derive from introspection. They are comparative statements of how much a person wants or expects from a job as compared to how much s/he receives in kind and/or degree at a given moment. They are also used to make comparisons between groups or under different conditions or at different times. Implicit is the belief that when discrepancies between what a person feels and what s/he needs, wants or expects, movement toward a change in behavior will take place, or a change in attitude will take place to reduce the condition variance or affective dissonance. Job attitude expressions tend to be more narrowly focused, less stable and more transient than the condition of the larger domain of satisfaction being sampled and about which influences are being drawn. Thus, for example, commitment involves a broader perspective and sampling of attitudes than satisfaction with the job itself, which is one component, and specific job attitudes can change rapidly in response to immediate changes in the work environment, while commitment attitudes evolve slowly and endure longer (Locke, 1969, 1976; Katzell, 1964; Porter & Steers, 1973; Porter, et al, 1974). It needs also to be noted that survey questions and scales do not necessarily maintain the same literal meaning for respondents over the course of time, experience, and

maturation. So, for example, in a four phase study of socialization processes and adjustment of soldiers, when factor analyses were performed, items and scales ended up in different factors at different stages--basic training entry and completion, advanced individual training, and first permanent duty (Goodstadt, Frey, & Glickman, 1975).

Primary differences on employee job satisfaction and behavior can be grouped into four relatively discrete categories (Porter & Steers, 1973), which can be placed in the framework of model components presented earlier:

Organization-wide factors applied to most employees

- 1) pay system
- 2) promotional opportunities
- 3) policies and procedures
- 4) organization structure

Personal factors differentiating among employees

- 1) age
- 2) tenure
- 3) personality

Immediate work environment factors that make up the work group

- 1) supervisory style
- 2) participation in decision making
- 3) work group size
- 4) co-worker relations
- 5) working conditions

Job content factors representing actual tasks and activities

- 1) job scope
- 2) role clarity and conflict

Our attention in this chapter centers on the latter two categories, with the

personal factors designating the target groups at different stages of career history. Some illustrative findings involving the immediate work environment and job scope are given below. Most research on job satisfaction, as Staw (1984) notes, is atheoretical. Studies like those of Wanous (1973, 1981) linking realistic job previews to turnover experimentally are the rare exception.

Immediate work environment

- More considerate supervision leads to higher levels of satisfaction (Vroom, 1964; Stogdill, 1974)
- Participation increases satisfaction (Scott & Mitchell, 1976)
- Larger work groups lead to more task specialization, poorer interpersonal communication, lesser group cohesiveness and, ultimately, reduced satisfaction (Porter & Lawler, 1965)
- Compatibility and quality of co-worker relations enhance satisfaction (Smith, et al, 1969; Locke, 1976)
- Working conditions that include a clean and orderly work place, adequate equipment, acceptable environmental quality (temperature, light, noise, humidity) became salient for job attitudes when present (or absent) in the extreme or when employees have clear standards for comparison (Chadwick-Jones, 1969)

Job content

- Increased job scope (variety, autonomy, responsibility, feedback) generally adds to satisfaction (Stone, 1978; Hackman & Lawler, 1971; Brief & Aldag, 1975), although in some cases, where ability or motivation is low, challenge

may beget frustration and anxiety (Steers, 1976; Hackman & Lawler, 1971; Hackman & Oldham, 1976).

--Role ambiguity and role conflict lead to increased stress and reduced satisfaction (Miles & Perreault, 1976; Morris, 1976)

Rather consistently, satisfaction and turnover have been found to be moderately related. Vroom's (1964) review found correlations of $-.13$ to $-.42$; Porter and Steers (1973) found a median r of $-.25$.

7. Physical factors identified with the job itself are those, like tools and equipments, that the workers use to accomplish tasks, and those that constitute characteristics of the work space, like atmosphere, illumination, and conditions of floors and walls. All of these contribute to ease or difficulty, comfort or discomfort, and health and safety or hazard and stress of doing work. When these impose conditions that are noxious, that are impediments to performance, they can become aversive influences, of course, that "turn off" people--that become stimuli that are directly converted into physical sensations. These are "hygiene" factors that Herzberg (1959) sees as factors, the removal of which removes dissatisfaction without adding to the worker's positive affect, constructive motivation and commitment to the employing organization. In common parlance: "It makes me feel so good when it stops." To be sure, there will be some people whose adaptive mechanism converts the ability to suffer pain into testimony to manhood or sanctity. However, it is rare that commitment to the employer, who is regarded as controlling the instruments of discomfort, is enhanced by such experience, particularly if more salutary options are available which release individuals from the need to perpetuate this form of dissonance reduction. Hence, we need not belabor the obvious; that whatever it is feasible to do through human factors and

environmental engineering and design to make tools and equipment easier to use, to achieve safety and efficiency, and to make work spaces more "livable," should be done. Such interventions can be regarded as necessary for removing deficiencies but not sufficient to engender and sustain positive motivational force. The means of meeting personal growth need requirements (motivators) and sustaining growth need strength must be provided as prerequisites for positive satisfaction and strengthening of organizational commitment. All of which matches the copious research findings that show that rewards are more effective than punishments in establishing and sustaining behavioral change.

8. The decision

Whatever the variables that are to be dealt with, eventually we come back to the kind of sequenced questions and answers for structuring and distilling the information available, that Mobley (1977) has given us in Figure B-6, to arrive at the quit/stay decision.

9. Life stages

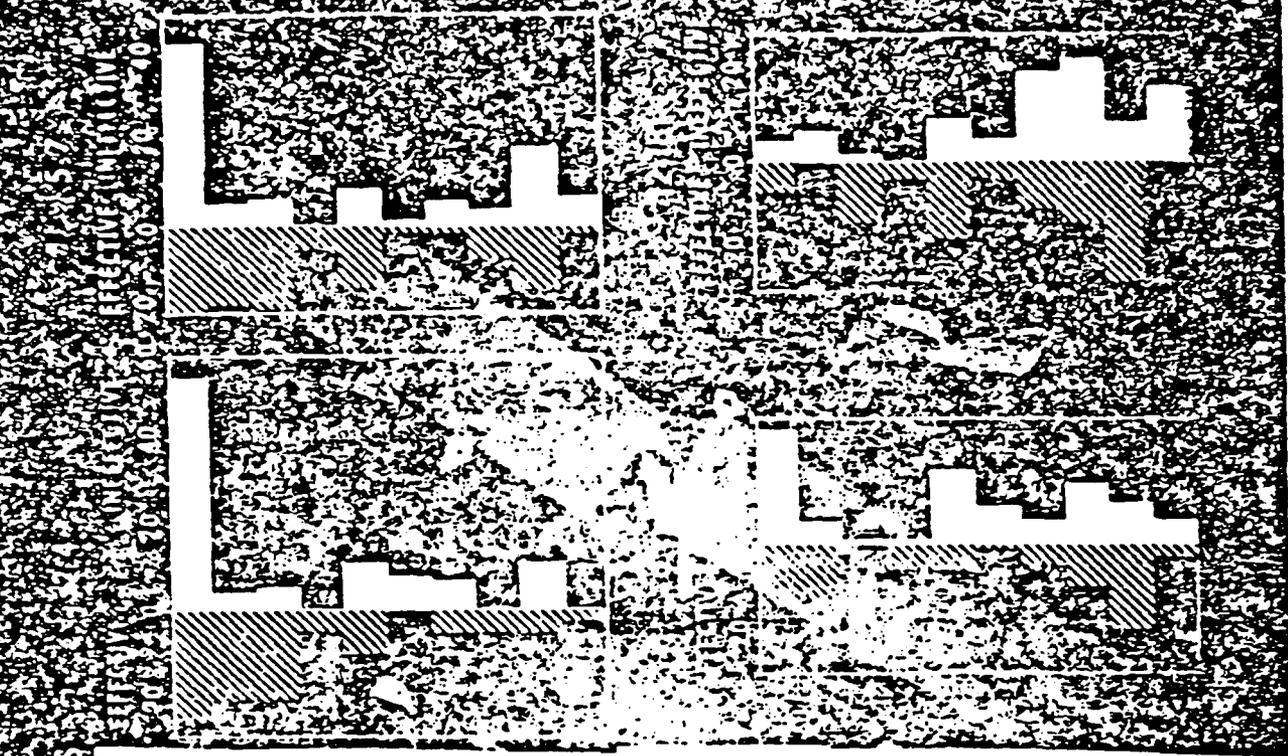
One cannot directly relate job satisfaction to stages of family development on the basis of available research, since analyses of correlates or moderators of job related attitudes have only dealt with relatively crude demographic indices of marital status, number of dependents, sex, age and tenure. So we have to content ourselves with approximations using indirect inferences deduced from the demographics, in the limited number of cases where such information has been presented. Since such studies seldom track individuals over time, for the most part we have to extrapolate to individual processes from cross-sectional group data.

To begin with, we have to bear in mind that, on the average, the nature of the work that people do undergoes change as job tenure and age increases. Older workers tend on the one hand to move, albeit imperfectly, into tasks and jobs that make use of their demonstrated competencies. Likewise they take on

different roles and responsibilities by virtue of promotion. Hence, indices of satisfaction reflect reference to different jobs, and direct comparisons from one time to another are soon confounded. For an example, look at Figure B-7 (Mayeske, et al, 1966), showing distributions of effective and ineffective critical incidents in ten categories reported by incumbents of one federal civil service occupation at various grade levels. One can see that at the lower levels 2-7, the opportunity to perform well or poorly and, by extension, to derive satisfaction or dissatisfaction, falls most often into the technical task category; while those who rise in rank increasingly take on responsibilities for working with and managing others, with decreasing involvement in accomplishing technical tasks personally.

Another example, Figure B8 (Glickman, 1961), shows the changes in responses to a career motivation survey in which eight equivalent but separate groups of enlisted men in the Navy, who began service at the same time, were followed through their first enlistment. The 39-item "attitude index" shows a progressive decline over time. However, it was obvious that what was salient about their frame of reference, expectations and reactions changed during the four year span. For one thing, the factor structure of the 39 items changed. For another the relation between overall attitude and the reenlistment (intention) index changed, as reflected graphically by the essentially flat attitude index curve from year 2.5 to year 3.5, accompanied by an "end spurt" in the reenlistment index, suggesting a changing saliency of weighting of factors affecting the career decision and the entry of new exogenous influences as the "moment of truth" approached.

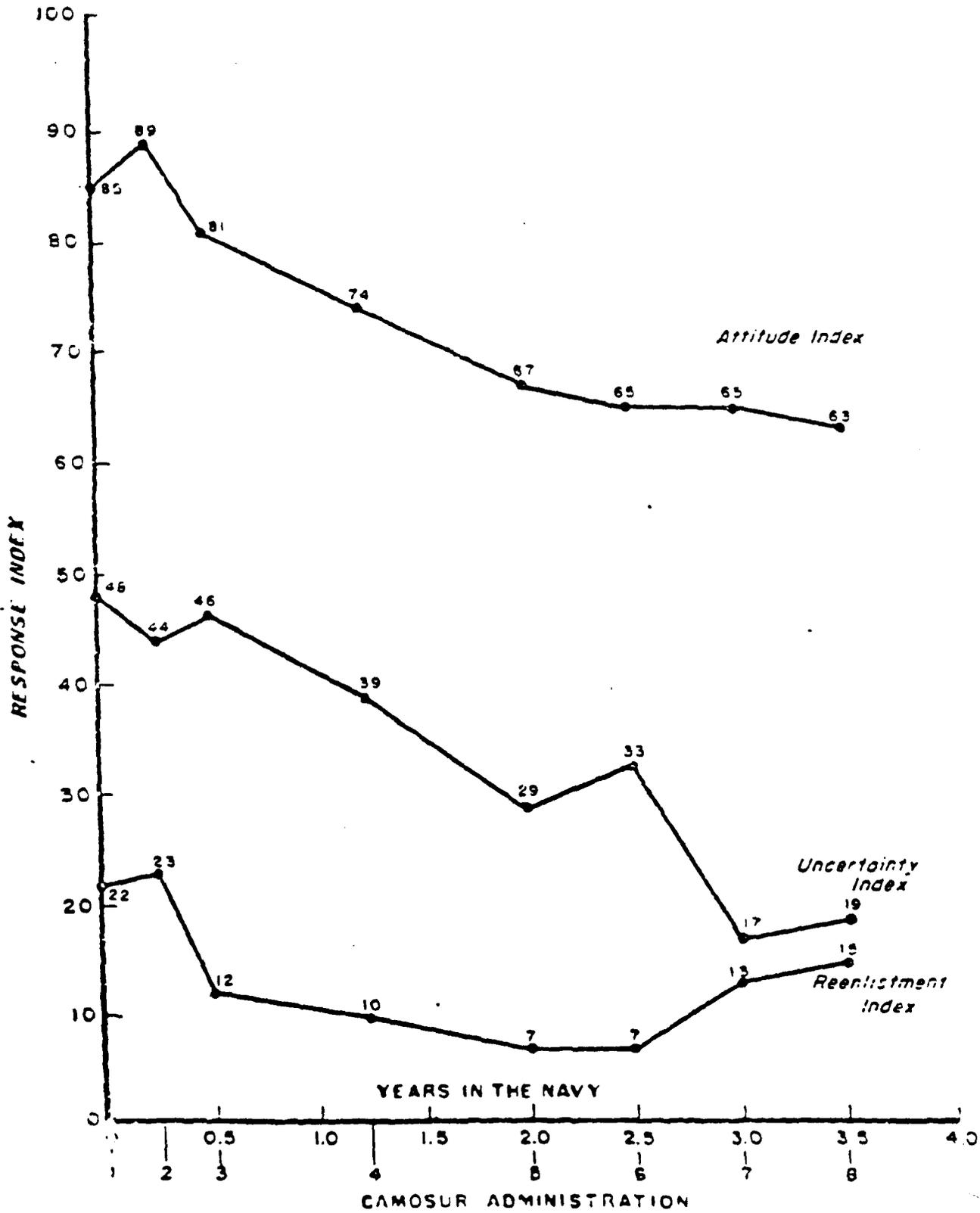
PERCENT OF EFFECTIVE AND INEFFECTIVE INCIDENTS WITHIN EACH GRADE LEVEL FOR EACH PERFORMANCE AREA



1. PERFORMING TASKS ACCURATELY
2. HANDLING PROBLEM SITUATIONS
3. TAKING RESPONSIBILITY AND INITIATING ACTION
4. RESPONDING TO NEED FOR EXTRA EFFORT
5. COOPERATING WITH OTHERS
6. GETTING ALONG WITH OTHERS
7. PLANNING AND ORGANIZING WORK
8. MOTIVATING SUBORDINATES
9. TRAINING AND DEVELOPING SUBORDINATES
10. MAINTAINING COMMUNICATIONS

1. PLANNING TASKS ACCURATELY
2. HANDLING PROBLEM SITUATIONS
3. TAKING RESPONSIBILITY AND INITIATING ACTION
4. RESPONDING TO NEED FOR EXTRA EFFORT
5. COOPERATING WITH OTHERS
6. GETTING ALONG WITH OTHERS
7. PLANNING AND ORGANIZING WORK
8. MOTIVATING SUBORDINATES
9. TRAINING AND DEVELOPING SUBORDINATES
10. MAINTAINING COMMUNICATIONS

Figure B-7.



In the more recent Army socialization study, previously referred to (Goodstadt, et al, 1975), the hypothesis was confirmed that as a function of experience in the Army, the factor structure of the recruit's perceptions would become more differentiated over time (from time of reporting to basic training to a few months after arriving at first permanent duty station). The greatest change in structural relationships occurred where the individual was describing attributes of the organizational environment (e.g., expectations, organizationally relevant adjustment). Factor invariance was more typical of the relationships among "people" measures (e.g., leadership climate, primary group climate). That is, soldiers tended to alter the dimensions that they used to describe the organization, while the dimensions used to describe people remained much the same over time and situations during the first eight to ten months of Army life. It was suggested that the individual's prior experience with "people oriented parameters" is more extensive than with organizations. Hence, the perceptual field has become more stabilized prior to service entry in the people aspect, but is still undergoing a great deal of evolution and maturation in the organizational aspect as "new" experience is gathered. These findings lead to suggestions that from the management standpoint attitudes are more malleable in the organizational domain than in the people-oriented domain of perception, and that administrative interventions seeking to effect attitudinal change ought to be instituted as early as possible in the socialization process; i.e., when the perceptual field is more fluid and open to influence--before people's attitudes get "set." So, for example, it might be worthwhile to experiment with techniques and programs to negotiate reenlistment contracts more in advance of the date of enlistment termination than is done now, taking a cue from programs that sign up recruits many months before their induction.

A study of social psychological determinants of labor force participation conducted for the Social Security Administration (Glickman, et al, 1979) provides another illustration of the kinds of information that can be obtained by comparing generations and genders on work and leisure (non-work) related variables. A representative sample (n = 787) of the adult population of Baltimore was involved, divided into three generations for the purpose of analysis: youth (18-30), adult (31-52), and elderly (53 and up). Selected findings of discriminant analyses that are most relevant to our current interests will be given here, summarized as comparative profiles.

Age. The youth felt in control in their world, were interested in getting ahead in their job, viewed leisure as pure fun, and were unconcerned about religious and morale beliefs interfering with work and leisure.

The middle aged also felt in control, but less so than the youth, were concerned that their jobs not interfere with their moral and religious beliefs, regarded their health as good and income adequate, did not identify with leisure, and focused concerns on their jobs and the opportunities that they offered.

The elderly were less healthy and wealthy than the others, reported being subject to external locus of control, were socially rather than personally motivated, felt strong needs to make a social contribution in both work and leisure activities, and less need for career opportunities.

Gender. Women were less confident, more likely to perceive their world as externally controlled, and desired security in a job. Men looked more for challenge and control and were more likely to identify with the work and non-work activities.

Most men sampled were in the labor force; 44% of the women. Overall, women in the labor force presented a profile more similar to men than to women not in the labor force.

What we have here gives only a glimpse of the potentials that this kind of approach holds for application in the military context. A full exposition of the implications of what was found in the study reported and hypotheses that might be applicable to the Army work and family is beyond the purpose and scope of this paper.

10. Summary statement of condition

Where do we stand?

"Of course," represents the impression generated by reviews of studies of variables related to turnover. It's obvious why the significant relationships found were found. It's obvious why expected relationships were attenuated or confounded by the weaknesses of the design or the situational exigencies that imposed constraints or confounds. With occasional aberrations that can usually be ascribed to special circumstances, "good" things about the job itself, the job context, and one's role and status in the work situation more often than not are associated with a lesser inclination to leave (e.g., Mobley et al., 1979). Of course, it is also true that most of the studies reported upon represent ad hoc targets of opportunity, in which some set of scales are applied post hoc to an available sample of employees at a single point in time in the employees' and the organization's life history that is dictated by convenience rather than by design. We are rarely told what happened, what management did with the information, what outcomes or attitudes are effected. Longitudinal studies are rare. Experimental interventions in the actual workplace that are not built upon self-fulfilling prophecies are also rare. Hence, even when similar results across several studies leads to some generalized association of turnover with a concurrent or antecedent condition, attribution of causation is for the most part speculative. In the absence of controlled experimentation, or repeated follow up of the same people, we are left at a loss in explaining how people got

that way--what actually went into the decision, at what point, in what fashion, that led to a choice to stay in or get out of the organization.

A variety of theories of motivation and job satisfaction have emerged in psychology. While countless theoretical expositions, experimental tests and empirical analyses have been devoted to explaining the merits and limitations of the various theories (particularly the better known ones), there are notably few instances in which more than one concept has been applied concurrently to the same situation, phenomena and set of data, or where experimental interventions have been made and evaluated in field settings, or where repeated measures made have been part of a longitudinal research design. Thus, most of the supporting evidence for models of applied motivation and satisfaction comes from cross-sectional surveys where cause-effect inferences are difficult. For instance, we do not know whether changes in objective job characteristics will change job attitudes and behavior as predicted by the Hackman-Oldham theory (Staw, 1984).

Perhaps it does not make sense to make comparisons of theories, since in each instance "truth" or "validity" tends to lie in the eye and aims of the beholder (the scientist and practitioner theory originators). The problem or purpose with which the originator starts out sets the point of departure and point of view for the rationale to follow. Solomonlike, one may say that, "They are all right," each within the domain whose boundaries they have defined and whose internal structure and dynamics they have charted (assuming a decent respect for objective fact, defensible design and method, disciplined thought, and communicability and replicability).

It also can be noted that the list of variables that at one time or another have been shown to be contributors to satisfaction is long and diverse. A set of 105 abstracts of job satisfaction research under military auspices reported since 1975 that this correspondent has just obtained from the NTIS pool provides a good example. All of which suggests that any determined effort to enhance job

satisfaction, based upon a reasonable research-based rationale can be made to show positive results, given resources and control sufficient to implement the prophecy by provision of incentives, reinforcements and/or need fulfillments.

On the other hand, although we have noted that we can usually expect to find moderate correlations between indices of job satisfaction and motivation, organizational researchers have not been notably successful in empirically demonstrating the relation of job related attitudes to specific outcomes. As Fisher (1980) has observed, this is probably attributable to the fact that they have tried to predict a single behavior at a single point in time from a general attitude instead of dealing with patterns of behavior over time.

One aspect of job satisfaction, career decision-making and turnover that appears to have been neglected in the design of models and related research, and which can be inserted in socio-technical systems analysis as well is the impact of significant life events. Various clusters of such events can be visualized ad hoc. In the immediate work situation, we can illustrate with a job that undergoes marked alterations, a change in duty stations, a change in command, an Army policy or program change (like pay, bonus, or promotion) or a locally initiated administrative change (in work team organization). In the family realm, some examples are marriage, births, deaths, divorce/separation, assumption or loss of custody of children, business failures. Likewise, do we know whether reenlistments are more likely among soldiers who are "at home" during a period before having to decide about reenlistment or "away."

While recent years have witnessed increasing interest in life event stress indices and their relation to performance and pathology (Ruch & Holmes, 1971), the relation of specific incident impacts to specific decisions has not received much attention and remains obscure. Among other things, more thorough study of these situations might improve social-psychological support programs, such as

those that are part of the Army's Family Action Plan. As Shinn, et al (1984) point out, job stress studies demonstrate empirically that the contributions of social supports are related primarily to the domain in which they are given--as a buffer of job stress, for instance (LaRocco, 1980; House, 1981; Stokols & Shumaker, 1982; Thoits, 1982; Antonucci, 1983; Cohen & McKay, 1984).

As a practical matter, given a problem situation, the best theory is likely to be the one that best fits the operational purposes stipulated and the information obtainable. It is in this sense that Lewin's assertion obtains that, "Nothing is so practical as a good theory," for the scientist, the practitioner and the manager. The utility of a given theory resides in the main in dictating the questions to be addressed, defining the data that is relevant, and providing the strategy of inference to bridge gaps in what is observable and demonstrable, given that motivation in general must always be a matter of inference, and that job satisfaction, in particular, is an affective state deriving from individual perceptions that are self-reported and not directly verifiable beyond the establishment of their reliability within certain limits of time, place, circumstance, and sampling of persons and situations. Real life constraints of dynamic complexity in all likelihood make the search for a "unified field theory" of motivation akin to the pursuit of the holy grail. All of which argues, where the need for research is dictated by action imperatives (like reducing turnover), for channeling more research toward evaluation of experimental interventions directly aimed at developing the specific attitudes that predispose the target group to manifest specific behavioral outcomes. Certainly, the attribution of causal relations is clearer when this approach is taken than when correlational analyses of essentially static variables obtained from preexisting samples and situations, adventitiously available in a "natural" setting, however elegantly conducted, in an effort to reconstruct "real life" phenomena through indirect inference. Of

the 105 studies in the NTIS data bank previously mentioned, only three appear to have involved evaluation of actual change implementations. One might say that the popularity of "attitude" surveys whether impelled by theoretical or practical concerns, leads to a distortion of the overall picture--accentuating the negative, because the findings tend to be read as "what's wrong," rather than accentuating the positive by conducting "experiments" that might show "what can be done about it."

Again we confront the need for more experimental interventions and assessments. An example is provided by Griffen (1983) who had foremen provide cues about the job to subordinates, the effects of which, along with changes in more objective job characteristics were assessed. Both objective changes and the foremen's social cues affected perceptions of task characteristics (variety, autonomy, feedback, identity) and overall job satisfaction. At the Army, squad and platoon level before-and-after comparisons were made of attitude responses for those who experienced REALTRAIN and those who engaged in more conventional exercises. Along six of nine motivation/satisfaction dimensions, responses were more positive following participation in REALTRAIN. On these six, the "conventionals" showed no change for five and a decline on the sixth. The other three had no before-after differences (Blanda, 1979). A subsequent study (Whitemarsh, 1983) showed REALTRAIN was better than conventional training on factor dimensions called "unit cohesiveness" and "training expectations," while conventional training was significantly better on "work satisfaction" and "career intentions"--an interesting example of a possible quandry for Army management when it comes to optimizing system outcomes.

In a quite literal sense, the policies and programs with which the present consultant panel is concerned are marketing policies and programs devoted to determining appeals and implementing organizational interventions for "selling"

the Army as an institution and as a fulfilling career in different ways to different segments of the target population currently enrolled within its ranks. Some of these appeals may be quite unique to given segments and conditions, of course, while other appeals may impact across varying numbers of population segments and situational contexts. Furthermore, interventions (i.e., changes) that may be optimal for one group of people and circumstances and times may be suboptimal, if not counterproductive, at other points in time and stages of development under other circumstances for other kinds of people. As in all organization systems the perpetual challenge is to reconcile contradictions and to allocate energies and resources, so as to achieve that balance of levels of subsystem optimization which ultimately maximizes overall organizational effectiveness as defined by organizational goals, objectives and acceptable quantitative and qualitative criteria thereof. So, for instance, an optimal solution of the problem of retention cannot be established independent of an assessment of the costs and benefits for the recruiting, selection, placement, training, and promotion systems; as well as overall effectiveness of manpower development and maintenance, performance effectiveness and readiness of the Army and the entire Defense Establishment, and the general welfare and security of the Nation as a whole.

A difficulty that arises as a system strives for optimization while it simultaneously strives to motivate and provide satisfaction for its various constituencies, is that treatments that are differentiated in an effort to appeal to, and meet the varied needs of these several constituencies often raise questions within each constituency as to the equity of policy and payoffs, as the members make comparisons between their functional units and others with respect to the degree of optimization afforded their unit by the system's solution, and to the advantages and disadvantages that come to them as individuals and as members of the several structural, social and economic

subsets (among which the family is included) that serve them as reference groups, within the Army in this case, and within the larger society as well.

III. Relation to overall retention

A. Interrelationship with other satisfaction areas

1. Family

What are you? Who are you? These are two fundamental questions of identity and affiliation for the individual.

In the social-cultural context, the conditioned response to the first question is most often the identification of one's "work" or occupation. We are what we do--the tasks that we perform and the roles that we play in "making a living," and which represent one set of prime determinants that establish our place in the social, psychological and economic life space of the community and society at large. In the military, "what are you" is answered with the occupational specialty and/or branch and occupational level rank.

"Who are you?" begets responses that are in large part related to family roles and relationships--"the wife of...," "the father of...," "the sister of...;" those who bear the name of...--that constitute another set of determinants of "place" in the social, psychological and economic scheme.

Of course, there is overlap and interactions between these roles and activities, and the related sets of determinants. In the pre-industrial eras the overlap was great. Indeed, the work and family definitions were very intimately related to one another. The family and the work unit was essentially the same. Thus, for example, Shepherd, Forester, Schneider, Taylor, Butcher, Smith identified the family and its work, and the artisan or agricultural worker's "place" in the tribe or community was defined in much the same way, with all family members sharing in the particular productive enterprise. The life history and work history of the family members was the same and had

continuity across generations. There was no ambiguity as to who you were or what you were, nor any perceived conflicts between work and family roles. The question of central life interest was not asked because it had no meaning. The task requirements, the "system" organization and the cultural norms were congruent and mutually reinforcing. Ambiguities and conflicts came into being as technology became a driving force, generating organizational differentiation division of labor, specialization of function, and increasing complexity of production processes, work organization structure and social institutions, accompanied by increased geographical and occupational mobility. The economic and cultural imperatives became correspondingly differentiated and were to a considerable degree no longer mutually reinforcing; in fact they came to impose explicit conflicts between the roles and values assigned to individuals as workers and as family members.

Nonetheless, the family and the work units in our society continue to occupy the most central places in individuals' life space. These are the places where, and the people with whom, most time is spent, the greatest number and intensity of interactions take place, the heaviest demands are imposed and the most opportunities for fulfillment and gratification are available. These continue to be the dominant face of the individual's identity and affiliation. These remain as the sources of the most direct influence and strongest impact upon needs and satisfactions.

Among the experiences bearing upon work and career satisfaction and choice among alternatives is the acquisition of a mate and children. "You recruit an individual; you retain a family." We have to face the uncomfortable fact that needs are in conflict. Achievement of satisfaction by the soldier and by the Army often appears to make spouse and offsprings the victims. The spouse and family do make a difference in the beliefs and attitudes a person has about the work he does and the outfit he works for. However, it often appears to the

soldier and spouse that the die has been cast earlier, and that they now have very little fate control in this part of their life space, so long as they stay in service.

Acquiring dependents (which "naturally" has a degree of correlation with age and tenure among younger--under 40--employees) can be a "locking in" factor in that it narrows the range of alternatives available/acceptable to the employee. "Family responsibility ...is associated with decreased turnover" (Mobley et al., 1979). However, for the soldier, his wife and children, the level of frustration may be greater than for his civilian counterpart because a perception of lesser fate control may prevail for the military family.

As the employment of spouses (mainly women) and dual careers becomes more and more the societal norm, there emerges a more active, direct and greater involvement and sharing of the respective work related experiences and concerns, with the non-military mate. The Army spouse, who now contributes one-third of the family income, now feels a greater entitlement to assert opinions and exert influence upon career decisions than was true when "breadwinner" status, residing in only one person (the husband), gave that person a dominant role in career decision-making and relegated the spouse to a passive dependent role. The reference here is not only to dual career conflicts, but also to the fact that the spouse with job experience has a more sophisticated understanding of the work related demands, goals, purposes, problems, satisfactions, frustrations and fulfillments of the soldier's work than in times past. Job-related satisfactions of the non-military spouse increasingly color (affect the saliency and valence of) the norms, beliefs, attitudes, values and expectancies of the military member regarding his/her work. The heightened status now accorded women in our society also encourages a more activist role in spouse assertion of personal and family needs and interests that may stand in opposition to the

demands asserted by the employer; the Army. Furthermore, the peculiar institutional nature of the military that envelopes all aspects of both individual and family life--one instead of separate worlds--tends to heighten the saliency for all family members of many issues which are less sharply confronted by most civilian families who can more readily detach concerns central to work life from concerns central to family life. All of which is further accentuated by the increasing acceptance of and resort to divorce (family turnover) and by the prescribed tangible "fringe benefits" to which non-military ex-mates are entitled. While those forces have little direct impact on the characteristics of the soldier's job, the generalization of affect may influence how well he/she does the job and the satisfaction derived.

In the aggregate, the soldier's ability to successfully deal with problems and derive satisfactions in the two settings of work and family and to reconcile contending values, pressures, priorities and demands, will figure most prominently in determining his or her sense of personal well-being.

Where this desirable affective state exists, it is assumed that the commitment to the employing organization and to the family is more likely to prevail against other alternatives.

2. Other areas

The constructive action-oriented processes of organizational diagnosis and intervention linking the technical aspects of the job with the endogenous interpersonal relationships and the exogenous economic, family, community and cultural aspects can be articulated by reference to the schematic of the socio-technical systems analysis and work/organization design processes that James Taylor (1983) has provided in Figure B9. In the analysis phase, given a definition of organization system or unit purpose, we begin with (1) a scan to discover presenting problems that generate (2) technical analyses to identify key variances, that leads to consideration of (3) alternative ways of

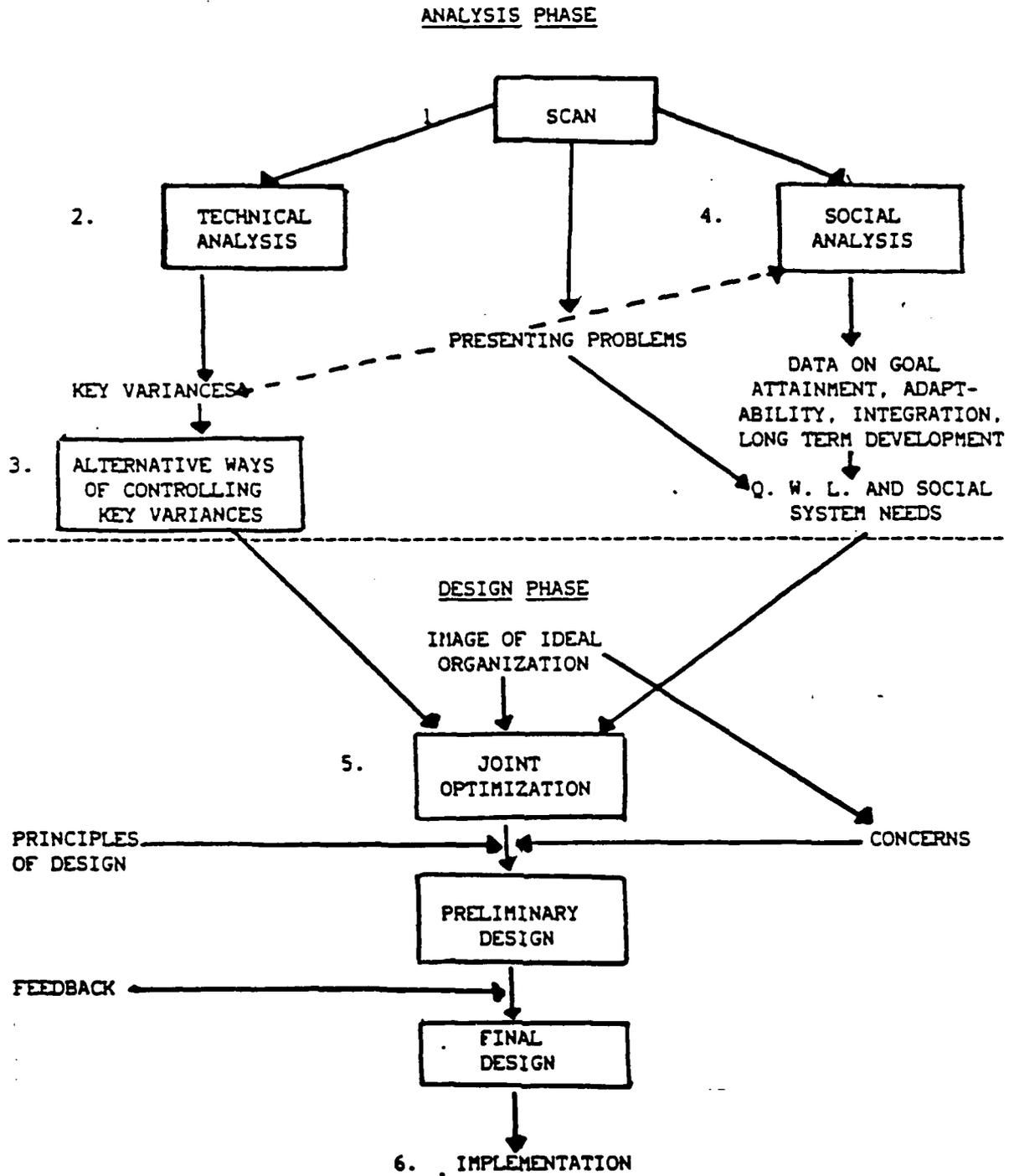


Figure B-9. The Socio-Technical Systems Analysis and Design Processes

controlling key variances. More or less simultaneously, (4) social analysis proceeds which considers implicit and explicit values for such factors as, goal attainment adaptability, integration, long-term development requirements, and quality of work life and social system needs. From the converging flow and exchange of information derived through technical and social analysis, and propelled by the need to reduce the key variances, in the design phase concepts are formulated that seek insofar as possible, (5) joint optimization of technical and social purposes and goals of the unit or system guided by the image of the ideal organization. Specific decisions, taking into account technical principles of design and social concerns, give rise to a preliminary design which, after exposure to feedback of various sorts, becomes a final design that becomes the basis for (6) implementation.

This is regarded as an approach to fit together the pieces of our own plans.

IV. Postscripts

The following remarks derive from the additional information and insights obtained in the course of a meeting held on 11 and 12 September 1985 of the five consultants on this project and four members of the Army Research Institute staff.

A. Caveats and speculations

If one is to operate with a "wellness" orientation in planning a research program, it would appear to this observer that, because of the near totality of the Army identity with, and control of, its members and their "way of life," high priority and major energies would have to be given to finding ways by which "Army life"--the actual and perceived relations of the members (soldiers and their families being equally members of the "Army community;" administrative distinctions notwithstanding) with the Army and with one another--might be changed to enable the soldiers and their families to improve the quality of

personal and familial adjustment by increasing their ability to draw constructively upon their own psychological resources and by enhancing the quality of those resources. For example, past research on adjustment and career motivation has demonstrated the importance of a feeling of personal "fate control." One approach might be to weigh the means and outcomes of interventions that aim to raise a person's perceived estimate of the internal/external fate control ratio against the ways and means provided to "compensate," for the "inherent" (say "unchangeable"?) disadvantages ("costs") of being in the Army. That is to say, given a particular policy or program (or set of alternatives) being considered for implementation, a cost is usually assigned, in dollars and cents or on some subjective scale (which may, through utility analysis, be converted into dollars). Benefits are assessed similarly in terms of the outcomes expected or demonstrated.

Too often, it might be contended, attention is focused exclusively on ultimate outcomes that are easy to identify (oversimply) as "bottom line" variables like "profit" or "retention," without taking adequate account of intermediate outcomes that are important in their own right, or that stand on the pathways to ultimate criteria as facilitators or impediments at earlier periods of time or earlier stages of decision-making, so that understanding of "how to get there" is obscure. A feeling of fate control (or lack thereof) may be one of these intermediate conditions or measures. We have also contended earlier that there is a proclivity to concentrate upon the negative aspects, the things that need to be fixed, rather than moving from strength to strength.

To provide more specific examples, to show where this kind of speculation might lead, let us take the case of family support services. The somewhat naive questioner might ask whether the host of services provided by the Army to make up for its alleged deficiencies or disadvantages (housing, medical services, PX,

counseling, et al) contain within them, for significant numbers of its constituency, the seeds of discontent--the kinds of discontent one hears about in a "company" town; the kinds of discontent that have been found to be associated with paternalism, no matter how benevolent and well-intentioned; the kind of discontent that arises from the feeling that each benefit is another reminder of one's state of dependency, of one's lack of ability to choose, of one's weakness in exercising control over one's own fate (at least as compared to non-military people).

We raised the question before as to whether more alternative occupational paths might be opened up for Army personnel after some period of tenure. In like fashion, we might ask whether some family benefits that look "good" on some scales of satisfaction-dissatisfaction, look "bad" when feelings of control are measured, and when and where there are inverse relationships between the two; and finally, how each set of variables affect outcomes of ultimate concern. Does the relatively low proportion of use of several of the support services offered make such questions pertinent? Is a declaration of independence being subtly expressed? Do we see some form of dissonance reduction taking place that the equity theorists link to feeling overcompensated?

Perhaps some greater understanding of pertinent choice phenomena could be developed by placing greater stress in a research program upon more micro-study of how families actually make decisions about staying in or getting out of the service and by employing market research methods in which specific population segments are targeted. Our purpose here, we underline once again, is speculative; heuristic, if you will. The contrasts made for emphasis, obviously make distinctions that may be more apparent than real. A gratuitous indictment is not intended, yet, the point needs to be made that emphasis on the "hard facts," to the neglect of the formative processes, has left some voids in the research constellation we have been exploring.

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A Framework for Research on Career Decision Making
and the Military Family
by
Gary L. Bowen

The retention of military personnel has become an issue of national concern. It has been the subject of Congressional hearings and public debates and retention concerns are among the top priorities of military leadership (11). Retention concerns have extended beyond first-term members, where re-enlistment rates are traditionally low, to include second term, mid-career, and even late-career officers and noncommissioned officers. Importantly, the goals of retention have expanded from just "retention" per se to the "retention" of high quality performers and individuals in critical manpower shortage areas (13, 34).

Given the extensive amounts of both time and money required to recruit and train personnel as well as the "lost investment" in senior enlisted and officer members who leave before qualifying for retirement benefits, it is vital that military decision makers understand the factors that influence the career commitments of service members. Only then can they endorse and develop policies and programs that help reduce the turnover rate of experienced and qualified members, thereby increasing the "readiness" of the armed forces.

Over the last decade, the military services have demonstrated an increased interest in the influence that family factors have on the retention decision making process of military members. Stimulated by a substantial increase in

the proportion of members with family responsibilities (3, 9) as well as a shifting value among military members to better balance the meaning and priority of work with family goals and interests (28), this interest parallels the growing recognition of the interdependence among personal and family well-being, recruitment and retention decisions, and job satisfaction and productivity (6, 14, 20). This recognition has provided the impetus for the increasing incorporation of support programs and services for military personnel and their families (20, 23).

Despite a proliferation of research on work and family linkages in the military community over the last decade (2, 10), little attention has been directed toward modeling the influence of family factors on the retention decision making process of military members. Given the importance of empirical integration for providing a conceptual underpinning for future research activities, the purpose of this chapter is to develop a comprehensive, conceptual model of linkages between family factors and the retention decision making process of military members.

In addition to its heuristic implications, such a model should have important implications for policy and program planners in the military community. However elementary, the model should be helpful to planners in identifying potentially promising policy, program, and organizational interventions to enhance the retention of desired personnel, and in developing models to predict quantitative impacts of

family-related interventions on retention.

The model developed in this chapter is based upon a literature review of studies concerning the nature of work and family linkages in the military community. The review was guided by three objectives: (a) to identify how and under what conditions family factors have been found to impact upon the career decision making process of military members, (b) to critique the nature and limitations of the knowledge base to date, and (c) to identify implications for further research activity exploring the interplay of work and family variables in the military community. The overall aim of the review was to generate hypotheses for modeling purposes, to develop "grounded theory" (17). Although the bi-directional pathway between work and family variables is increasingly recognized (12, 41), this paper focuses primarily upon one direction of influence: the family's influence on work, in particular, the family's influence on the retention intentions and behaviors of military members.

A LITERATURE CRITIQUE

Although the issue of employee retention has sustained the interest of personnel researchers since the turn of the century (25), the study of retention in the military services has only recently become a focus of study. The transition to an all-volunteer force in 1973, the need for a large standing peacetime force that supports allies worldwide, coupled with the increased technological sophistication required to operate modern weapons have necessitated the retention of

trained personnel (10, 35). The relationship between family factors and retention in the military is even more recent. Given recent research that suggests the inextricable link between family responsibilities and satisfactions of employees and employee morale and commitment, it is no longer possible to deny the critical role that families play in the work arena (7, 35).

Until recently, there was only limited research, largely anecdotal, to suggest the influential role that family factors play in the retention decision making process. However, since the early 1970s, there has been an increasing number of studies that have reported a link between family factors and retention (6, 14). Nonetheless, there is a growing body of literature that attests to the linkages between family factors and retention (29). In fact, one family variable, spouse support for the member's career, has been identified consistently in the research literature to date as a positive and direct predictor of the retention decision-making process of military members (6, 18, 28, 29, 38). With the exception of spouse support, however, there has been a lack of consistency in the findings of studies examining the links between family factors and the retention intentions and decisions of military members.

Despite the growing body of literature investigating the influence of family factors on the retention decision making process of military members, a number of conceptual and methodological issues continue to plague the research. Among

these issues include: (a) variation in the specification of the dependent variable, (b) a tendency to associate turnover with negative implications for the organization, (c) failure to include variables in the analysis that tap the perceptions and attitudes of other family members besides the military member, (d) neglect of the anticipated impact of family life on the retention decision-making process of single members, (e) lack of stage-specific analysis across both the work and family life cycles, (f) an overdependence on cross-sectional as compared with longitudinal designs, (g) primary use of bivariate as compared to multivariate analysis, (h) overreliance on quantitative as compared to qualitative methods for model building, (i) use of small, often nonrepresentative or narrowly defined samples (e.g., officer members only), (j) inadequate statistical controls in the analysis, (k) underanalysis of data sets, and (l) a failure to separate marital and family interactional variables from variables dealing with levels of marital and family life satisfaction.

Although the combined influence of these issues limits the use of a grounded theoretical approach to generate models of work and family linkages, substantial progress has been made over the last decade in studying the influence of family factors on the retention decision making process of military members. However, it is clear that continued conceptual clarification as well as additional methodological and statistical rigor are needed in this important area of policy

and program research. This is especially the case if the purpose is to create explanatory and predictive models for guiding policy and program development.

A CONCEPTUAL MODEL

The aim of this section of the chapter is to outline a model hypothesizing the direct as well as the indirect path of influence of family factors on the retention decision making process of military members. An attempt is also made to depict factors that indirectly influence the retention intentions and decisions of military members through their impact upon family-related factors. Following the turnover research of Mobley et al. in the civilian sector (25) and Orthner and Pittman in the military sector (29), satisfaction with marital and family life is depicted as a major mediator between antecedent and outcome variables in the model.

Using an inductive theoretical approach, the process of constructing the model involved first identifying the nature of relevant data and then summarizing the source of the data, the nature of hypotheses tested, and the major findings. The development of the model relied primarily on 18 empirical studies, selected primarily based on their methodological soundness and their use of multivariate analysis (4, 5, 6, 8, 18, 19, 21, 22, 27, 28, 29, 30, 31, 32, 36, 38, 40, 43).

Since the nature of relationships between variables is an essential focus of inquiry when using an inductive theoretical approach, relationships between variables in each study were examined closely for direction, shape, amount of

influence, and length of time involved in the relationship. In the process, careful attention was given to evaluating the unique limitations of the data and the data analysis which impact upon the confidence that can be placed in the inferences. From this process, more general propositions or hypotheses were induced for purposes of modeling.

As stated above, the nature of literature in the military sector is quite limited in describing the relationship between family factors and the retention decision making process of military members. As a consequence, it is important to emphasize that the process of building a model of the influence of family factors on the retention decision making process of military members is a highly subjective process at this point in time. The conclusions about which inferences are defensible are very much a matter of judgment, and should be viewed as highly tentative and debatable. Although this caution should be kept in mind in assessing the validity of any model that is proposed, the activity itself is a valuable one and is essential to generating hypotheses for empirical testing.

With these caveats in mind, using an inductive theoretical approach and guided by meta-analytical type thinking, an analytical model was developed (see Figure C1). Table C1 provides an overview of variable domains included in the model; Table C2 outlines propositions from the empirical literature that provide justification for hypothesized linkages between variable domains.

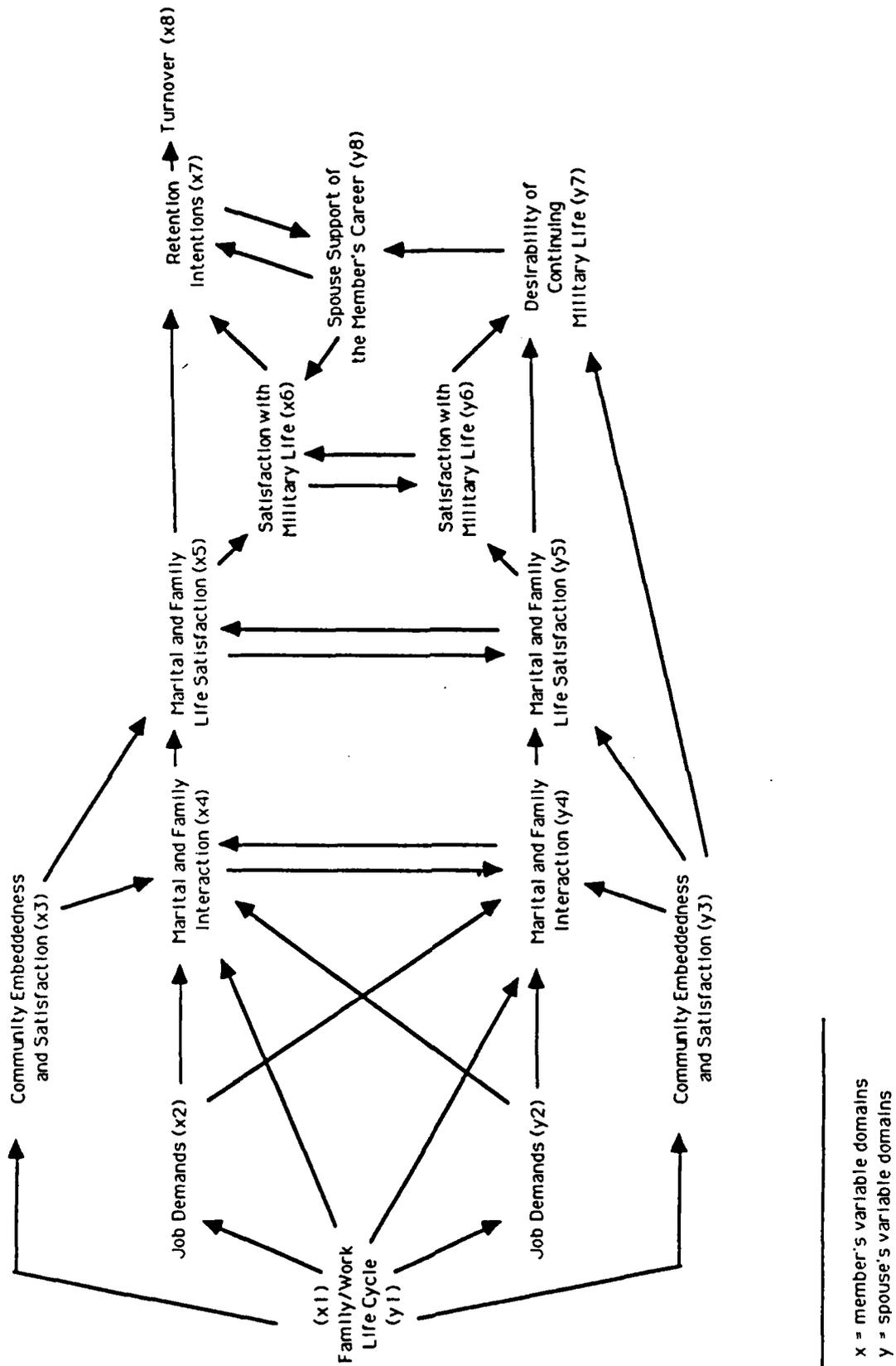


Figure C-1. A proposed model of the relationship between family factors and the retention decision making process of military members.

Table C-1

Variable Domains: A Synopsis of the Literature

Family Life Cycle (X1) (Y1)	Marital/Family Interaction (X4) (Y4)	Retention Intention (X7)
Marital status	Gender role attitudes	Reenlistment intent
Years married	H/W problem solving	Extension behavior
Presence of children	Marital communication	Desirability of Continuing Military Life (Y7)
Number of children	H/W time together	Desire to remain in military
Age of youngest child	H/W sexual relationship	Spouse Support (Y8)
Career Life Cycle (X1) (Y1)	H/W role sharing	Desire: Member to continue military career
Years of service	H/W ease of communication	Turnover (X8)
Rank (M)	Parent/child companionship	Decision to continue/terminate military service
Employment status (S)	Parent/child time together	
Job Demands (X2) (Y2)	Religious participation	
Work hours	Marital/Family Life Satisfaction (X5) (Y5)	
Family separations (M)	Satisfaction: Marital relationship	
Temporary duty assignments (M)	Satisfaction: Parent/child relationship	
Remote tours (M)	Satisfaction with Military Life (X6) (Y6)	
Extra-duty assignments (M)	General satisfaction: Military life	
Swing shifts (M)	Military/family conflict	
Frequency of PCS (M)	Like the military way of life (S)	
MOS (M)	Feel proud to be part of military (S)	
Nature of job (S)	Satisfaction: Military social life/protocol (S)	
Community Embeddedness and Satisfaction (X3) (Y3)		
Satisfaction with location		
Good environment for family		
Size of personal network		
Relationships: Personal network		
Ease responsiveness to families		

Note: M = Member only; S = Spouse only; H/W = Husband and wife; PCS = Permanent change of station; MOS = Military occupational status.

Table C-2

Toward a Specification of Propositions Concerning the Relationship Between Family Factors and the Retention Decision Making Process of Military Members: A Foundation for Model Development

FIRST-ORDER PROPOSITIONS	SECOND-ORDER PROPOSITIONS
<hr/>	
<i>Turnover (X8)</i>	
<hr/>	
The greater the retention intention, the lower the chance for turnover behavior (19).	
<hr/>	
<i>Retention Intention (X7)</i>	
<hr/>	
The greater the spouse's support for the member's career, the higher the retention intention of the member (6, 18, 19, 22, 29, 30).	
The greater the member's satisfaction with military life, the higher the retention intention (6, 27).	
The more the member is satisfied with military life, the higher the retention intention.	
The fewer the conflicting demands between military service and family life, the higher the retention intention (38).	
The higher the member's marital satisfaction, the higher the retention intention (29).	
<hr/>	
<i>Spouse Support (Y8)</i>	
<hr/>	
The greater the spouse's desire to remain in the military, the higher the spouse's support of the member's career (6).	
The higher the retention intention of the member, the higher the spouse's support of the member's career (22, 38).	

Table C-2 (continued)

FIRST-ORDER PROPOSITIONS	SECOND-ORDER PROPOSITIONS
<i>Desirability of Continuing Military Life (Y7)</i>	
<p>The more the spouse agrees with military rules, the greater the desire to continue military life (19).</p>	
<p>The more the spouse likes the military, the greater the desire to continue military life (19).</p>	
<p>The more the spouse feels proud of the military, the greater the desire to continue military life (19).</p>	<p>The greater the spouse's satisfaction with military life, the greater the desire to continue military life.</p>
<p>The more the spouse feels that his/her participation in the military provides a contribution to society, the greater the desire to continue military life (19).</p>	
<p>The greater the spouse's satisfaction with military social life and protocol, the greater the desire to continue military life (22).</p>	
<p>The greater the spouse's satisfaction with military life, the greater the desire to continue military life (6, 18).</p>	
<p>The more satisfied the spouse is with parent/child relationships, the greater the desire to continue military life (6).</p>	<p>The higher the spouse's marital and family life satisfaction, the greater the desire to continue military life.</p>
<p>The more satisfied the spouse is with marriage, the greater the desire to continue military life (6).</p>	

Table C-2 (continued)

FIRST-ORDER PROPOSITIONS	SECOND-ORDER PROPOSITIONS
<p>The more positive the military atmosphere is viewed by the spouse as a place to rear children, the greater the desire to continue military life (6, 30).</p>	<p>The more embedded and satisfied the spouse is with the military community, the greater the desire to continue military life.</p>
<p>The more embedded the spouse is in the military community, the greater the spouse's desire to continue military life (6, 30).</p>	
<hr/> <p><i>Satisfaction with Military Life (X6; Y6)</i></p> <hr/>	
<p>The greater the spouse's support for the member's career, the higher the member's satisfaction with military life (6).</p>	
<p>The greater the marital satisfaction, the greater the satisfaction with military life (21, 38).</p>	
<p>The greater the member's satisfaction with military life, the greater the spouse's satisfaction with military life, and vice versa (28).</p>	
<hr/> <p><i>Marital and Family Life Satisfaction (X5; Y5)</i></p> <hr/>	
<p>The greater the member's satisfaction with marital and family life, the greater the spouse's satisfaction, and vice versa (8).</p>	
<p>The more effective the problem-solving in marriage, the greater the marital and family life satisfaction (28).</p>	
<p>The greater the companionship in marriage, the greater the marital and family life satisfaction (28).</p>	

Table C-2 (continued)

FIRST-ORDER PROPOSITIONS	SECOND-ORDER PROPOSITIONS
The greater the role sharing in marriage, the greater the marital and family life satisfaction (8, 28, 31).	The greater the marital and family interaction, the greater the marital and family satisfaction.
The greater the ease of communication between spouses, the greater the marital and family life satisfaction (21, 28).	
The greater the sexual satisfaction, the greater the marital and family life satisfaction (28).	
The greater the joint church attendance, the greater the marital and family life satisfaction (5).	
The greater the joint church attendance, the greater the parent-child relationship satisfaction (5).	
The more positive the perceptions toward base responsiveness to families, the greater the marital and family life satisfaction (29, 30).	The more embedded and satisfied with the military community, the greater the marital and family life satisfaction.
The greater the social support network, the greater the marital and family life satisfaction (29, 30, 36, 38).	

Marital and Family Interaction (X4; Y4)

The more positive the member's marital and family interaction, the more positive the spouse's marital and family interaction, and vice versa (8).

The more embedded and satisfied with the military community, the more positive the marital and family interaction (28, 36).

Table C-2 (continued)

FIRST-ORDER PROPOSITIONS	SECOND-ORDER PROPOSITIONS
<p>The more time that the member spends away from home because of job demands, the greater the interference with home life (32, 43).</p>	
<p>The more frequent the member's separation from the family, the higher the spouse's parent-child relationship stress (40).</p>	<p>The greater the respective job demands of members and spouses, the less frequent and positive the marital and family interaction.</p>
<p>The more frequent the member's separation from the family, the greater the spouse's feelings of loneliness (40).</p>	
<p>Members and spouses in marriages where the spouse works part-time are more likely to experience lower marital companionship than members and spouses in marriages where the spouse is not employed or works full-time (30).</p>	
<p>Parents of adolescents are more likely to experience lower marital companionship than childless couples and parents of younger children (28).</p>	<p>Parents of adolescents are more likely than other parents to experience less positive marital and family interaction.</p>
<p>Parents of adolescents are more likely to experience higher parent-child relational stress than parents of younger children (28).</p>	
<hr/> <p><i>Community Embeddedness and Satisfaction (X3; Y3)</i></p> <hr/>	
<p>Members and spouses in the senior enlisted and officer ranks are more likely to have weaker community relationships with friends and neighbors than more junior enlisted and officer members and spouses (4).</p>	

Table C-2 (continued)

FIRST-ORDER PROPOSITIONS	SECOND-ORDER PROPOSITIONS	
<i>Job Demands (X2; Y2)</i>		
<p>The higher the rank of the member, the more hours worked per week (28).</p> <p style="text-align: right;">The job demands of members and spouses vary over the family and work life cycles.</p> <p>Childless spouses and those with children older than six years of age are more likely to be employed than spouses with children under age six (28).</p>		
Source Documents		
4 Bowen (1985)	21 Lavee, McCubbin, and Patterson (1985)	31 Patterson and McCubbin (1984)
5 Bowen (1986a)	22 Lund (1978)	32 Raney (1980)
6 Bowen (1986b)	27 Mowbray and Scheirer (1984)	36 Stawarski and Bowen (1988)
8 Bowen and Orthner (1983)	28 Orthner and Bowen (1982)	38 Szoc (1982)
18 Grace and Steiner (1978)	29 Orthner and Pittman (1986)	40 Van Vranken (1984)
19 Holoter et al. (1974)	30 Orthner, Pittman, and Monroe (1984)	43 Woelfel and Savell (1978)

Before summarizing the major components of the model and the relationships hypothesized between components, it is important to underscore several points. **First**, the development of the model relies exclusively upon findings from research with military samples. **Second**, the model contains a relatively small number of constructs which represent multiple, related variables (see Table C1). **Third**, the model explicitly recognizes that there are both member and spouse attitudes, satisfactions, and behaviors and that spouses are also developing retention attitudes that will impact upon the retention intentions and behaviors of members--a serious conceptual neglect in most prior research. However, the model is designed only from the perspective of civilian spouses and their military member spouses, the predominant household pattern among married military members. Although it is possible to expand the model to include situations where both husband and wife are military members, an attempt was made to keep the model as parsimonious as possible. **Fourth**, the satisfaction dimensions in the model are conceptualized as "relative satisfaction" concepts that integrate satisfaction with the current situation with perceptions of outside alternatives. **Fifth**, although the model does not explicitly address the anticipated impact of family life on the retention decision making process of single members, researchers exploring the model could word questions in the future tense to test the validity of the model for single members. **Sixth**, unless otherwise stated,

the model developed assumes a recursive system with only unidirectional influences hypothesized. For purposes of discussion, families are defined broadly to include all individuals whose decisions may be affected by the presence or expected future presence of a spouse, child, or other family member.

The Proposed Model

Figure C1 identifies the major components of the family/turnover model and the hypothesized relationships between components. Table 2 should be consulted both for the nature of the relationship between components as well as for the respective sources of empirical support. Briefly summarizing with the aid of Figure C1, it is predicted that the turnover behavior of members (X8) will be directly and positively affected by their retention intentions (X7). The level of support from the spouse for the member's career (Y8) is hypothesized to have a positive and reciprocal relationship with the retention intentions of the member (X7). The level of spouse support (Y8) is also predicted to indirectly impact upon the retention intentions of the member (X7) through its indirect and positive impact on the member's level of satisfaction with military life (X6). In addition, the retention intentions of members (X7) are also hypothesized to be directly affected by the member's satisfaction with military life (X6) and by the member's marital and family life satisfaction (X5)--hypothesized to both directly affect retention intentions and to indirectly

affect retention intentions through a positive and direct influence on the member's satisfaction with military life (X6). The level of satisfaction of the member and spouse with military life (X6 and Y6, respectively) is hypothesized as reciprocal.

Like the member, the spouse is also hypothesized to have an attitude toward the desirability of staying in or leaving the military (Y7) which will directly affect the level of support given to the member for continuing the military career (Y8). This attitude for spouses (Y7) is predicted to be directly affected by their satisfaction with military life (Y6), by their satisfaction with marital and family life (Y5), and by their level of community embeddedness and satisfaction (Y3). In addition, the impact of spouses' satisfaction with marital and family life (Y5) on their feelings about the desirability of continuing or leaving military life (Y7) is also hypothesized as indirect as well as direct through their satisfaction with military life (Y6).

It is predicted that the satisfaction of the member and spouse with marital and family life (X5 and Y5, respectively) are strongly interrelated. The evaluation of marital and family life by both the member (X5) and spouse (Y5) is hypothesized to be directly affected by their respective perceptions toward marital and family interactions (X4 and Y4, respectively), which are predicted to be interrelated, and by their respective levels of community embeddedness and satisfaction (X3 and Y3, respectively). In addition, the

member's and spouse's levels of community embeddedness and satisfaction (X3 and Y3, respectively) are predicted to indirectly affect their levels of marital and family life satisfaction (X5 and Y5, respectively) through a positive and direct impact on their respective perceptions toward marital and family interaction (X4 and Y4, respectively). The level of marital and family interaction of the member and spouse is also predicted to vary depending on the respective job demands of both the member and the spouse (X2 and Y2, respectively).

Last, the job demands (X2 and Y2, respectively for members and spouses), and the level of marital and family interaction among members (X4) and spouses (Y4) are predicted to vary over the family and work life cycle for members (X1) and spouses (Y1). The family/work life cycle serves as the exogenous variable in the model and will be discussed in the following section.

The Need for a Life-Course Perspective

Families change greatly over time in their membership, function, and needs. Work careers have a similar dynamic and change in the nature and level of their demands over time (26). As a consequence, to understand variations in work and family linkages, it is necessary to employ a process model of work and family connections. Voydanoff (41) has found it productive to apply a life-course perspective and role strain theory to the analysis of the intersection of work and family careers over the life cycle.

The concept of work and family "career" is essential to understanding the influence of family factors on the retention decision making process of military members. In its most general sense, the concept of "career" refers to a integrated sequence of activities throughout the life cycle, and includes stages and critical transition points (1, 16, 41). Stages are divisions within the career (or life cycle) that are different enough from one another to constitute separate periods (e.g., the transition from singlehood to marriage) (1). From the process or life course perspective, the intersections and interdependences of work and family career lines may involve competing demands that require scheduling, coordinating, and time and resource management (41). The expanding and contracting demands of work and family roles across the life cycle may create role strain and/or conflict at certain intersections which may have consequences for both work and family performance and stability. To date, little theoretical or empirical attention has been directed toward examining the interactions of work and family linkages across the life cycle. This is true whether we examine military or civilian literature. Research is required in the military community which traces family and work dynamics over time, exploring the consequences of this process for family dynamics as well as for the retention decision making process of military members. It is likely that there are pressure points at certain intersections of work and family careers. For

example, many couples attempt to begin their careers and their families simultaneously. The combined responsibilities for the early development needs of children together with the heightened pace and expectations of a new job often present considerable pressures on young adults and their families (1).

The Rapoport's have labeled the intermeshing of work and family careers as "role cycling" (33). These intersections become natural intervention points for studying the consequences of transitions in either the work career, the family career or both on the family dynamics and the retention decision making process of the military members.

Conclusion

Despite the proliferation of research on work and family linkages in the military community over the last decade, there has been limited theoretical effort at modeling the influence of family factors on the retention decision making process of military members. Although a number of conceptual and methodological issues limit the comparability of research in this important area of inquiry, a theoretical model is outlined using an inductive theoretical approach. A key aspect of the model is the inclusion of both member- and spouse-related variables--a serious limitation in most prior research.

Given the limitations in synthesizing existing literature exploring the influence of family factors on the retention decision making process of military members, the

model is offered as a conceptual and theoretical "strawman." By attempting to integrate the research literature to date, the model should have heuristic implications as well as implications for policy and program planners in developing interventions to enhance the retention of desired personnel.

As a "strawman," it is hoped that the model will help focus future inquiries into the influence of family factors on the retention decision making process of military members. It is suggested that a combination of quantitative and qualitative methodologies be used to test relationships hypothesized in the model, especially those that incorporate longitudinal designs that follow panels of military members and their spouses over time who are at different stages in the family/career life cycle. The use of qualitative decision making frameworks are also particularly recommended for tracing the process by which members and their spouses make a decision about continuing or discontinuing military service.

The testing and refining of the model will depend upon careful development of operational definitions and empirical measures of its conceptual domains. To date, there has been a general lack of comparability in the definition and measurement of key constructs in the model. It is hoped that the model presented will stimulate greater attention to measurement issues.

As a beginning framework, it is recommended that military leaders sponsor research to explore the validity of

the model not only within the military services, but also within the civilian employment sector. At present, there is dearth of comparative research on work and family linkages between the military services and civilian employers. A better understanding by military policy and program planners of how the work and family dynamic varies between the military and civilian employment sectors can promote the development of policy and program initiatives which focus on institutional strengths. Such initiatives will enhance the ability of the military services to compete with civilian employers to retain high quality performers and individuals with advance skills.

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Linkages Between Community Variables and
Retention/Turnover Decisions

by
Dennis K. Orthner

INTRODUCTION

Research on the retention decisions of personnel has tended to focus on the immediate work environment or on the extrinsic rewards/benefits offered by the employer. Suggestions that other factors may also play a role in this important decision have also been offered but other factors have not benefitted from as extensive a research program. The potential importance of community and social network variables to job satisfaction, work productivity and retention decisions has been largely ignored until very recently. In fact, nearly all of the literature linking community related variables and work outcomes has been conducted by the military services. Civilian corporations or organizations have begun to recognize the potential value of intrinsic community ties to their employees but very little research has been stimulated to date (Ahlbrandt, 1984).

The U.S. Army has taken a major step forward in recognizing the potential importance of community variables in improving quality of life and subsequent retention/turnover decisions of Army personnel. The Army Family White Paper (1983) and the Army Family Action Plan (1985) give significant attention to the importance of a "sense of community" among Army personnel and family members. These documents suggest a potential linkage between the satisfactions that are derived from living in an Army community and the commitments that soldiers give to their units and their jobs. The other armed services have also made similar claims but not to the extent of the Army. This belief is also a foundation upon which the new manning system is being developed. Several of the studies on community, family and retention variables have been conducted to determine if the community justifications for the new manning system can be supported empirically.

The purpose of this paper is to identify potential linkages between community and social network variables and retention decisions of military personnel. The major theories and typologies of community will be briefly reviewed and a hypothetical model of linkages between community variables, job satisfaction and retention decisions will be presented. Justification for the linkages in the model will be reviewed, including relevant research studies that have been conducted. Finally, the potential importance of community factors will be compared with other relevant retention related constructs, including job, economic, family and organization culture factors.

TOWARD A THEORY OF COMMUNITY AND WORK LINKAGES

One of the first problems in building a theory of community and work linkages is defining the concept of "community" itself. Definitions of community abound in the literature. These vary from largely amorphous, ad hoc collectivities, such as "a community of scholars", to small territoriality bounded groups with long-term, primary ties. Hillary (1955) reported that there were already 96 different definitions of community in the literature by the mid-1950s. This situation has continued to expand rather than to result in definitional consistency.

For purposes of the present study community is defined according to Edwards and Jones (1976):

Community is a group structure integrated around goals that derive from the people's collective occupation and utilization of habitational space, members of the community have some degree of collective identification with the occupied space, and the community has a degree of local autonomy and responsibility.

This definition incorporates most of the components included in the multiple definitions offered in the literature, including people, location in geographic space, social interaction, and common ties. Many of the current writers acknowledge this definition and it describes quite well the characteristics of the community suggested in the Army Family Action Plan and other related documents.

Classical Theories of Community

The concept of community has been of interest to sociologists, economists, and historians for several centuries. Many scholars have given significant attention to changes in the structure and relationships within communities, largely as the result of industrialization and urbanization. The most noteworthy early theory of community was developed by Ferdinand Tonnies a century ago. Tonnies' book Gemeinschaft and Gesellschaft (1883) (usually translated as Community and Society) identified two polar types of community. In the Gemeinschaft community, human relations were intimate and based on close loyalties to the people and the place in which they lived. In contrast, the Gesellschaft community is impersonal and based on large scale, contractual ties that are easily replaced and transferable to other people or situations. This typology of communities is clearly based on an underlying bias toward small, intimate communities in which people know each other and work together for their own and mutual benefit.

Other scholars have built upon the work of Tonnies and have characterized the changing community in a similar

manner. One of the more recent, Carle Zimmerman (1938), characterized communities around his concepts of "localistic" and "cosmopolitan" communities. Again, Zimmerman argues that the localistic community tends to encourage the development of healthy, stable personalities among its' people and responsibilities that community members take for the needs of one another. The cosmopolitan community, in contrast, places emphasis upon individuals and their ability to realize their own desires; great emphasis is placed upon the pursuit of wealth and material goods; and there is little neighborliness and friendliness. Again, Zimmerman retains the traditional value orientation in which the modern urban community is defined as providing fewer psychological and relational benefits for the individual and the family.

In terms of community and work linkages, these classical theories, view work and community as more closely integrated in smaller industrially simple types of societies than in larger, urban societies. In a sense, size and complexity of community systems influences opportunities for individuals to understand and know about the activities and personalities of people who have contributed to the community and its development. Therefore, in more complex communities, individuals became alienated from one another and their work became something that contributes to their own personal need fulfillment but not necessarily to the fulfillment of needs of others in the community. Thus, community, family and work have become increasingly independent entities rather than the interdependent entities they had been in smaller, more cohesive communities that were territorially and occupationally limited.

Ecological Theories

Ecological theories of community placed their emphasis on the development of community structures. These theories began to emerge in the 1920s within the study of community development in terms of urban, spatial structure. The ecological analogy was used because human ecologists were concerned with "patterns of symbiotic and communalistic relations that develop in a population, ... that constitutes the adjustment of the organism to the environment" (Hawley, 1950). According to ecological theory, communities can be divided into "sub-communities" that are territorially bounded and in which structural relationships provide for the daily requirements of people. Thus, the aggregate community is made up of sub-communities which meet the specific needs of their members.

Several different ecological theories were developed over the last several decades (e.g. Hillery, 1969; Hawley, 1950) but these can be summarized as having common characteristics. First of all, community organizations vary

but there is a tendency for people to co-locate with others who are of similar socioeconomic status. Location and quality of residence in relation to services and work become important sources of identity for people in communities. Second, people tend to congregate around those places that concentrate services and jobs and these places become foci for the development of sub-communities and identities. Third, competition for prime areas of residence tends to be won by those who have been in the community longer and who are able to more accurately measure the relative advantages of different geographical locations. This tends to result in the tendency for various groups and institutions to locate into separate and distinct parts of the city or community and to result in differential perspectives on the benefits of the community to themselves and their families.

Ecological theory, even oversimplified as above, suggests that there are many structural and demographic variables that influence the nature of the community. From this perspective, satisfaction with community is as much a function of residence and the ability to garner services as it is location in relation to job or occupation. Ecological theory suggests that perceptions of community and perceptions of work are related but relatively independent. Work location is an important determinant of residence but this becomes increasingly less important as transportation capability increases, social status needs increase and proximity to services become more important.

Housing quality and access to quality services become increasingly important to people over time. These factors help people define their own personal quality of life. To the extent that the work organization facilitates access to these quality services, the individual family is likely to support or commit themselves to that organization. If the organization is proximally distant from those high quality services, then the commitment of the individual to the organization is likely to be distinct from his or her commitment to community.

A contemporary illustration of the workings of ecological theory is offered in the Rand McNally Places Rated Almanac (Boyer & Savagau, 1985). This book purports to rate cities/communities according to the quality of services they provide to their citizens. It assumes that the quality of services can be statistically reported and that the territorial boundaries of the community can be appropriately defined from an ecological standpoint. The quality of the community is, therefore, defined by the ability of people to readily access those services which are available to them.

Social Systems Theory

Social systems theories of community (e.g. Bell & Newby, 1973; Parsons, 1952; Warren, 1972) focus on the community as a system and the way in which communities are structured and organized (Poplin, 1972). According to this view, communities are made up of statuses and roles, groups and institutions. Individuals hold roles and statuses and these are combined with other roles and statuses to form groups. These are in turn combined to form institutions, which are combined with other institutions to become communities.

From a systems perspective, a community must provide systems which meet the needs of its members and the community is that whole which incorporates those systems. While these systems may vary in structure from community to community, the most important institutions typically incorporated in a community are governmental, economic, educational, religious and familial sub-systems. These in turn are broken down into different groups and associations that provide for the needs of individuals, which can be in turn broken down into their components, statuses and roles. Thus, the individual is linked to the community through groups and ties to larger systems and institutions which provide for his or her needs as well as those of the community at large.

Systems theory suggests that community, family and work linkages are closely related, although the needs of the community are given precedence over those of the individual. In order for the community to survive, it must provide institutional prerequisites for human interactions and organization. Community is not created by the work place but the work environment may provide or stimulate a form of governance that encourages the development of educational, religious or economic needs of the individual and community. The work organization, therefore has a role in promoting social order in the community. Individuals are more likely to commit themselves to an organization that fosters this social order than one that does not. This suggests that community and work commitments are interrelated, especially in circumstances in which the work organization has responsibility for the development and maintenance of significant elements of the community in which people live.

This theory has direct implications for the military community and the retention of military personnel. Individuals are not simply linked by territorial or temporal bonds but by reciprocal obligations to fulfill the needs of one another. To the extent that military installations have definable boundaries and promote a "quality of life" for those who live and work within those boundaries, the military organization and its structure of governance is

likely to be deemed responsibility for fulfilling the basic needs of community within the social system of the military installation.

Psychocultural Theories

Psychocultural community theories focus primarily on the interactions between people in territorially bounded groups and the sentiments and other psychological meanings that are associated with community membership (e.g. Ahlbrandt, 1984; Hunter, 1974; Janowitz, 1967). In contrast to the earlier theories, this theoretical approach places primary emphasis on the individual or family as the unit of analysis. The key determinant of community membership is not location in a specific geographical territory or access to specific programs and services but participation in informal support networks that provide for the psychological and relational needs of the person. To some extent, psychocultural theories of community harken back to some of the earlier writers on community development, most notably Tonnies and others who are writing about the value of close, intimate ties for the fulfillment of individual needs and commitment to the larger goals of the social organization. The importance of informal support networks is increasingly recognized in the sociological and psychological literature with primary attention being given to nuclear family, kinship, friendship and voluntary organization participation (Ahlbrandt, 1984). From this perspective, community is a constructed reality which depends upon the presence or absence of people who can be called upon for help, support, diversion and intimacy.

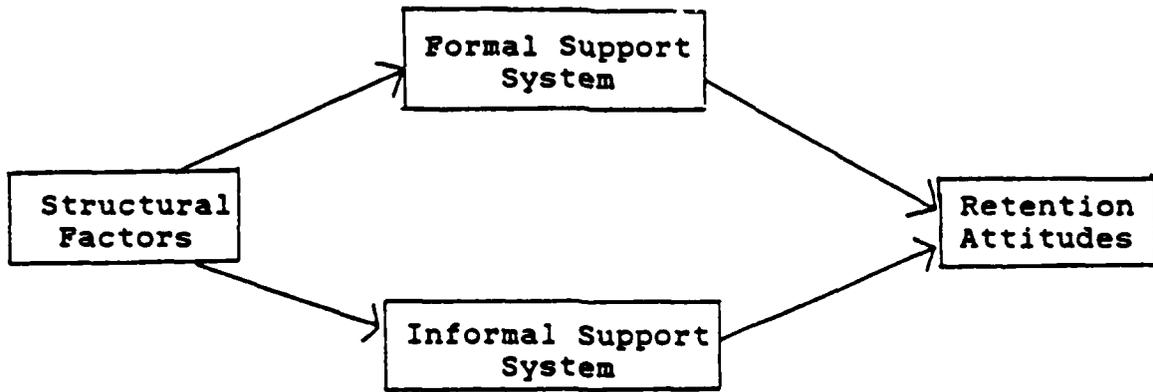
Psychocultural theories of community have begun to be recognized in terms of their importance to the work organization and employee commitments. The Army's recognition of the importance of a "sense of community" implies a psychocultural element to these localities. Ouchi (1981) specifically noted the importance of informal networks in both the organization itself, whether a corporation or a military installation, and the community outside. In developing his "Theory Z" of organizational development and capability, Ouchi specifically mentions the United States military services as an example of an organization which purports to integrate community and productivity as an organizational effectiveness strategy.

A MODEL OF COMMUNITY AND RETENTION LINKAGES

Based on the theories presented earlier and the linkages suggested between community and work outcomes and commitments, an exploratory model has been developed. This model (see Figure D1) suggests that there are three major components or constructs of community which ultimately have an impact upon work commitments on the part of the employee.

Figure D-1

General Model of Community and Retention Linkages



Structural Factors

Housing Attitudes
Proximity to Post
Tenure in Community

Formal Support System

Post Community Policies
Support Program Awareness
Support Program Attitudes
Support Program Use

Informal Support System

Friendship Networks
Neighboring
Voluntary Organization
Participation

These three components largely follow from the three major theoretical perspectives outlined earlier in the paper.

The structural component of the model follows from ecological theory and includes a number of community variables that are tied to the concepts of territoriality, tenure, and adequacy of housing in the community. To fit the military context of this model, these have been further defined to include: propinquity to the post, tenure in the local community, and attitudes towards housing.

A second major component or construct of the model incorporates the formal support system suggested by social systems theory. The formal support system is hypothesized to include the programs and services which are provided by the community and the overall organization, policies and practices which support community development. Placing this within the context of the military structure, it is suggested that the formal support system incorporates post leadership, community policies and practices and the awareness, attitudes and use of community support programs on the part of military personnel and their families. The latter concepts are included instead of the actual programs and services which are provided on a typical Army post. Support services are nearly universal while awareness, attitudes and use of these services can vary considerably from post to post.

A third construct included in the community model flows from psychocultural theory and includes the informal support networks that may be part of the community. The informal support system should include family and kin, friendships, neighbors and voluntary organizations. For purposes of the present paper, family and kinship variables are excluded since they are covered by another paper. Therefore, the major variables that are incorporated in this model include friendships, neighboring activities and voluntary organization participation.

The generalized model of community and work linkages suggests that structural variables are likely to be antecedent to the formal and informal support systems. That is, they are likely to determine the context within which both the formal and informal support systems can operate and influence the individual in their social networks. Thus, the model is hypothesized to be recursive, even though there are likely to be feedback loops and other nonrecursive features in actual practice. For example, it is very possible that the military system and its formal support structure can influence some of the structural dynamics of the community, i.e. housing, access to services, etc. These will need to be explored in more detail through empirical investigation.

Given the variables identified in the general model, a more complete hypothetical model of community variables and retention is proposed (see Figure D2). This model suggests that perceived post policies and practices, community propinquity or nearness to the post, and length of time or tenure in the community are variables exogenous to the model predicting retention intentions. Direct effects on retention are predicted to come from support program attitudes, use of post programs, Army friendships, and attitudes toward housing. These variables in turn are indirectly influenced by program awareness, community neighboring and participation in post voluntary organizations.

The model presented in Figure D2 is again a recursive model, although some nonrecursive elements are incorporated as well. The figure also incorporates some hypotheses with regard to strength of relationships between the variables. Modest relationships are indicated by a single plus (+), while strong relationships are indicated by multiple pluses (+++). Justification for these hypothesized relationships and their strengths are outlined below.

SPECIFICATION OF VARIABLES IN THE MODEL

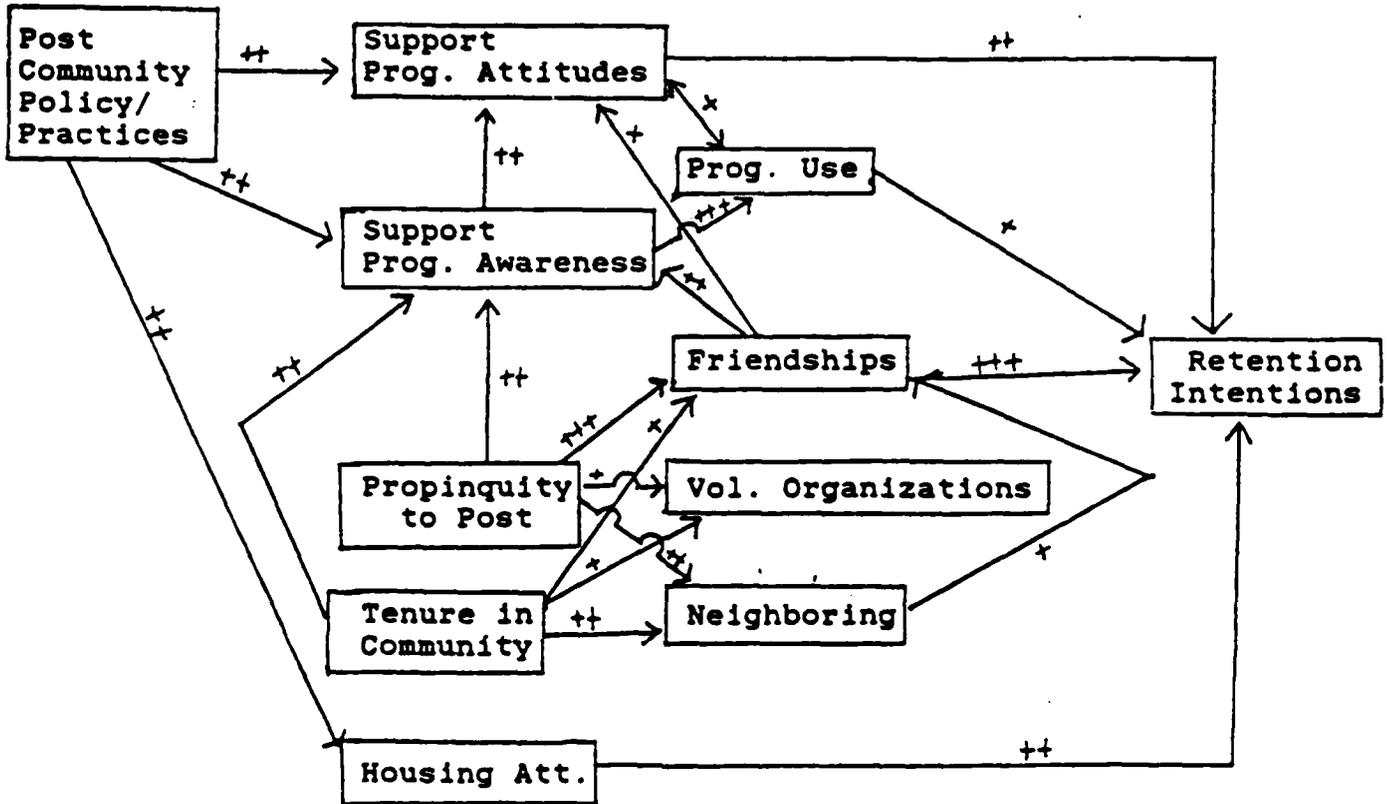
This section of the paper specifies the variables incorporated in the community and retention model and identifies several of their major components. Included are potential indicators which have been used or could be used to measure these variables. Also noted are previous research studies which have examined these linkages. Whenever possible, the potential strength of the relationship is justified and the confidence that can be given to that relationship is offered. This evidence is considered exploratory but will be used as a basis for building a more comprehensive model of retention intention that incorporates community and other potentially significant constructs.

Post Community Policies and Practices

One of the most critical exogenous variables in the model is the community support policies and practices of the post. Along with program awareness, use, and attitudes, this variable is part of the factor defined as the formal support system. It is hypothesized that community policies and practices have a direct effect on program awareness, program attitudes and housing attitudes. It is further hypothesized that this variable has an indirect effect on program use and, ultimately, on the outcome variable of retention intention.

Figure D-2

Hypothesized Model of Community Variables and Retention



Overall community support policy has not been measured in the majority of studies that were reviewed. Indirectly, this variable has been examined and measured by socio-cultural participant-observation (Woolley-Downs, 1979), structured interviews (Van Vranken, Jellen, Knudson, Marlowe & Segal, 1984) and likert-type survey questionnaires (Martin, 1985; Orthner & Pittman, 1985; Szoc, 1981). The general type of question addressing this variable included the respondent's perception of post support for personnel and families, and their perceived ability to influence these policies. Research is mixed concerning personnel and family attitudes toward local community policies and practices. Results from two studies of Navy respondents indicated dissatisfaction with local policies and practices (Szoc, 1981; Woolley-Downs, 1979). Respondents did not perceive local leadership as supportive of family needs. Although local community support was not measured in direct relation to program or housing attitudes or program awareness, these studies report more negative attitudes towards programs and housing and less awareness of programs by respondents. In turn, those least satisfied with housing and programs are more likely to make a negative decision concerning retention.

Studies of Army and Air Force personnel and families have produced some different results (Orthner, Brody, Hill, Pais, Orthner & Covi, 1985; Orthner, Pittman & Janofsky, 1985). Leadership support was perceived by these respondents to be generally supportive of families and family programs. Respondent attitudes toward programs were more positive in these studies than those reported previously. However, support for housing maintenance was still found to be inadequate by Army respondents. Additionally, program awareness by respondents is below the desired level for both Army and Air Force personnel and families.

Confidence in the results reported by these researchers remains fairly high, even with mixed results. One reason for this confidence is that it is not surprising that different posts and bases report different levels of local leadership support. Not all posts are operating at the same level of effectiveness for community support. Additionally, there is enough consistency in results across investigations to support the hypotheses.

It is difficult to determine if the hypothesized relationships will be the same for active duty and spouses because many studies collected data only from spouses. However, as Woolley-Downs (1979) reports, wives were

dissatisfied to the point of wanting their spouses out of the military, and Szoc (1981) found that when a conflict occurred between the military and the family, the family usually won. Orthner and Pittman (1985) found that the direction and intensity of the relationships between community policy and work commitment outcomes were similar for married members, married women and civilian spouses. Through time, satisfaction with community practices and policies tends to increase. Those spouses who had been in the military longer report more satisfaction than first-term spouses (Van Vranken & Benson, 1978).

Support Program Awareness

Knowledge of community support programs is the second variable in the formal support factor. This variable is defined as the acquisition of knowledge about Army post personal or family support programs. Included here are such programs as Army community services, financial counseling, sponsorship and recreation services. Awareness denotes not only that the program exists, but how and where one can take advantage of the service. Program awareness or knowledge is hypothesized to have a direct, positive influence on program attitudes and program use, as well as to indirectly influence retention intention.

Measures of program awareness in the literature were typically included in structured interviews and mail surveys (e.g. Martin & Carney, 1984; Orthner et al., 1985; Schneider & Gilley, 1984). Respondents were queried concerning general knowledge of the existence of support programs, as well as their awareness of specific programs (Martin, 1985; Orthner & Bowen, 1982).

Study results indicate a general lack of awareness of community support programs on the part of military personnel and family members. Van Vranken and Benson (1978) found that 57% of their sample of spouses had no knowledge of how formal services could assist them. Knowledge of available programs does appear to be mediated by length of time in the service and rank of the active duty member (Van Vranken et al., 1984). Wives of lower ranking enlisted members had the least knowledge about services available to them. Program awareness is also mediated by one's need for specific programs and how well publicized they are (Orthner & Bowen, 1982; Orthner, Pittman & Janofsky, 1985). Programs such as childcare services and spouse employment were known by more respondents than couple communication training or handicapped services.

The literature suggests that military personnel and families are aware of many more programs than they actually

utilize (Orthner et al., 1985). However, without the knowledge that particular programs exist, it is impossible for respondents to either use programs or to have attitudes about them. Although the relationship between program awareness and retention has not been directly tested in the literature, Schneider and Gilley (1984) found that those active duty respondents who were less integrated into the community reported that fewer support programs were available. Also, this group held less strong beliefs in military goals and were less likely to be planning to extend their time in USAREUR. Spouses who were less integrated into the community were likewise unaware of available programs, and many of these spouses wanted their active duty spouse out of the Army.

We can feel fairly confident about the results reported by the various researchers. The results are consistent across studies and across branches of the service.

Support Program Attitudes

Attitudes towards community support programs is the third variable in the formal support factor. This variable is defined as respondent satisfaction or dissatisfaction with community support programs of which they are aware. Attitudes can be shaped without actual use of support programs. Program attitudes are hypothesized to have a reciprocal positive influence on program use. Further, this variable is also hypothesized to directly influence retention intentions.

Program attitudes were measured in much the same way as program awareness, through structured interviews and mail surveys (Lund, 1978; Schneider & Gilley, 1984). Respondents were queried concerning their satisfaction with specific programs as well as support programs in general (Scoz, 1981). Others were asked to identify how helpful they found the support programs available to them (Van Vranken & Benson, 1978).

The sponsorship program was generally seen as unsatisfactory (Scoz, 1981). Martin (1985) reported that 62% of the first term wives in his sample did not receive either a unit or community "welcome briefing," and 81% of cadre wives did not receive a formal greeting. In relation to retention intention, significant differences were found between active duty members who did and did not have an effective sponsor (Schneider & Gilley, 1984). Only 6% of active duty members with an effective sponsor planned to leave the Army, while 25% of the active duty members without an effective sponsor were planning to separate from the military. Thus, a distinctive difference between those

receiving community support and those who do not emerges as significantly related to the active duty members decision concerning retention intention.

The relationship between support program attitudes and support program use is hypothesized to be reciprocal in nature. Word of mouth about support programs often precludes formal information channels as spouses and active duty pass on their own experiences and perceptions along with program information. Thus, as Woolley-Downs (1979) found, spouses often have preconceived notions about available services without having ever used the service themselves. Consequently, program attitudes can effect whether or not military personnel and families will utilize the services available. The reciprocal side of this relationship, programs use affecting program attitudes, will be discussed in the next section.

Length of time in the military mediates respondent attitudes toward support programs. Respondents either change their attitudes toward support programs, seeing them as more satisfactory, or they learn how to get around the system. Thus, those people who have been in the military community longer are more likely to be more satisfied with their support programs (Martin, 1985; Szoc, 1981).

Support Program Use

Use of community support programs is the fourth and final variable in the formal support factor. This variable is defined as first-hand use of a community support program available at the post. Program use is hypothesized to be a function of military personnel and their families awareness of and attitudes towards available community support programs. Two direct influences are hypothesized, the first is between program use and retention intention. Although a positive influence is hypothesized, the relation is not expected to be very strong. The second hypothesis is the reciprocal influence between program use and program attitudes.

Program usage rates are usually queried through direct interview or by mail surveys. The respondents are asked which support programs they have utilized in the post community (Orthner, Pais & Janofsky, 1985; Schneider & Gilley, 1984). According to research, support programs are used less frequently by those military personnel and their spouses who are less integrated into their community (Schneider & Gilley, 1984). Lower rates of usage presumably occurred because of lower levels of program awareness. These same respondents reported more often that they would not extend their tour of duty and their spouses reported

If military personnel and their families are not aware of programs that can help them solve their problems, these problems may become so severe that the active duty member and his or her family are encouraged to leave the military.

Support program use may also be affected by preconceived attitudes toward support programs. Reluctance to use programs may come about because of what a spouse or active duty member has heard about the program, because they have used a support service and have been dissatisfied, or because they believe that some kind of reprisal has occurred or will occur against the active duty member (Orthner, Pais & Janofsky, 1985). Spouses express great reluctance to use particular programs, e.g. marriage counseling, either because they have used a program in the past and they believe the active duty member's career was adversely affected, or because they believe it will be adversely affected (Van Vranken, Jellen, Knudson, Marlowe & Segal, 1984).

In one of the few studies to examine program usage of both husbands and wives, there were no differences found in rates of use (Orthner, Pittman & Janofsky, 1985). It is difficult to generalize this finding to the present model because of the scarcity of husband/wife samples in the literature. However, we predict no differences between husbands and wives rate of support program usage.

Housing Attitudes

Attitudes toward one's housing environment is the first variable in the structural community factor. This factor encompasses the physical characteristics of the community that impact upon the active duty member and his or her family. In addition to housing attitudes, tenure in the community and propinquity to post make up this factor and the latter two variables will be discussed in the following sections.

Housing attitudes are defined as satisfaction or dissatisfaction with the housing structure, location and maintenance. A respondent may be satisfied with the quality of their housing, but be dissatisfied with the location, because it is too far from the post, shopping or schools (Woolley-Downs, 1979). Likewise, if the housing structure is not maintained properly the structural state of the apartment or trailer may create a community fear of burglaries and robberies.

Housing attitudes are hypothesized to have a positive, direct influence on retention intention. This variable is influenced by local community policies and practices, but is not hypothesized to have any other direct or indirect relationships.

Respondent attitudes towards housing are often measured by asking questions about specific aspects of the housing structure, e.g. number of rooms, number of apartments in the building, and the respondents satisfaction with these characteristics (Nogami & Urban, 1978). On the other hand, housing attitudes may be measured by a global question addressing general satisfaction (Woolley-Downs, 1979; Orthner, 1980). More often housing attitudes are queried by addressing respondent satisfaction with housing maintenance and housing support organizations (Martin, 1985; Orthner et al., 1985).

It is common to find discussions of housing attitudes in the literature (e.g. Miller, 1978; Nogami & Urgan, 1978; Szoc, 1981). Yet, it is rare that housing attitudes are measured in direct relation to respondent retention intention. Martin (1985) found significant differences between those intending to leave versus those staying in relation to their attitudes towards housing. Military personnel and their spouses who were intending to separate from the service were more negative in their attitudes toward their housing situation and reported experiencing more stress over housing.

In her ethnographic study of a Navy community, Woolley-Downs (1979) reports that a majority of conversations began with a discussion about housing, and the stresses and dissatisfactions incurred. Along with health and physical safety, housing was one of the three basic needs not being met by the Navy community in which the respondents lived. Additionally many of these women linked housing as one of the reasons they wanted their husbands' to leave military service.

Housing attitudes are mediated by the rank of the active duty member, enlisted versus officer, and the respondents length of time in the military. The results reported in the literature are very consistent over time and across branches of the service. Consistency in the literature enables us to feel confident about the hypothesized influence of housing attitudes on retention intentions.

Tenure in Community

Military personnel and their families often have little time to integrate themselves into the community before it is time to move again. Yet, length of time in a military community is hypothesized to be the second variable in the structural support factor. This variable is defined as the number of months the respondent has spent in a particular post community. It is not the length of time the respondent has been in the military.

Tenure in the community is hypothesized to have a direct influence on several variables. Positive relationships are hypothesized between tenure in the community and the friendships maintained, the volunteer organizations entered into, and the neighboring in which one engages. In other words, all three of the informal support variables are affected by the length of time the respondent has spent in the community. Additionally, a direct positive influence is hypothesized with support program awareness. Indirect influences are hypothesized through the friendship variable with support program attitudes and retention intentions.

Measurement of tenure in the community is relatively uniform in the literature. Most studies queried the number of months spent at a particular post (Miller, 1978; Orthner, Brody & Covi, 1985). Literature linking tenure in community to other variables is scarce. A linkage has been found between residents living in a community over a year and the support programs they were aware of and the activities in which they participated (Miller, 1978). Long-term residents of family-centered neighborhoods reported more extensive participation in social activities, and greater satisfaction with neighbors and friends, than those living in non-family-centered neighborhoods.

Because of the lack of literature linking tenure in community with other community variables, it is difficult to hypothesize if there will be a difference between husbands and wives, or across the life cycle.

Propinquity to Post

How close the military member and his or her family live to the post is the third variable in the structural support factor. Propinquity is defined as the distance the respondent lives from the military post. This variable is hypothesized to have direct, positive influence on all three of the informal support variables: friendships, volunteer organizations and neighboring. Propinquity is also

hypothesized to have a direct effect on program awareness. As with tenure in the community, propinquity is hypothesized to have indirect influence on program attitudes and retention intentions through friendships, and on program use through program awareness.

The actual distance the respondent lives from the post has not been measured in the present literature. More often, problems incurred with the distance from where one lives to the post are identified through interviews, when knowledge of support programs and availability of adequate transportation are discussed (Orthner, Brody, Hill, Pais, Orthner & Covi, 1985; Woolley-Downs, 1979).

Most of the problems that arise because of propinquity to the post occur because of the lack of adequate transportation. The young wife living in an off-post trailer court without a car will not be able to join volunteer organizations or make use of support programs (Woolley-Downs, 1979). Convenience of housing has also been shown to result in increased satisfaction with neighbors and an increased ability to make lasting friendships (Miller, 1978). Additionally, the respondents nearness to the post is linked to increased awareness of support programs (Orthner et al., 1985). When spouses are unable to acquire information firsthand they must rely on the military member to bring home the information, which is often not done (Orthner & Bowen, 1982; Orthner, Pais, & Janofsky, 1985).

As would be expected, the active-duty member does not often have the same problems with residential propinquity as the spouse. The military member travels to the post every day, is accessible to the information on support programs, sees friends, and participates in organizations. The spouse may be more involved in neighboring, however this is not evident from the literature. This model does not hypothesize differences between husbands and wives because propinquity has not been studied in direct relation to the informal support variables or to program awareness. Thus, our confidence in these linkages are based on indirect study results, rather than independent findings. This model will test some important relations that have heretofore been untested.

Neighboring

In order to better understand this first variable in the informal support factor, a definition will be provided first. Neighboring activity is defined as borrowing or exchanging things with neighbors, visiting neighbors,

helping (or being helped by) neighbors with small tasks, and calling on neighbors for help in an emergency (Ahlbrandt, 1984). Neighboring activity, involvement in volunteer organizations and friendships are the three variables that comprise the informal support factor.

Neighboring activity is hypothesized to have direct, positive influence on involvement in volunteer organizations and on friendships in the neighborhood. Indirect influences are hypothesized, through the friendship variable, on support program awareness and attitudes, and the outcome variable of retention intention.

Measurement of neighboring activity has taken on many forms. Ahlbrandt (1984) stated his definition in terms of frequencies and included borrowing, visiting, helping and calling on others in an emergency in his neighboring index. Neighboring has also been measured by asking respondents if they would call on neighbors in the event of a major personal or family problem (Martin, 1983; Orthner, 1980). These latter studies examined only one aspect of Ahlbrandt's (1984) neighboring activity.

Research on neighboring activity in the military community is somewhat limited. It is at times difficult to distinguish neighboring from friendships since one leads to the other. Yet, we are able to discern some independent results. These results are, however, somewhat mixed. For instance, first-term COHORT wives reported that they had developed supportive relationships with other women (Martin, 1985). They shared activities such as rides, baby sitting for each other, going shopping together and attending activities. Cadre wives did not report the frequency of supportive relationships as did first-term wives, perhaps because they often do not live in as close proximity and because they are more financially independent and are more likely to have personal transportation.

Other research has not reported typically supportive neighboring relationships (Orthner, 1980; Van Vranken, Jellen, Knudson, Marlowe, Segal, 1984). Contacts with neighbors were not seen as particularly helpful, or were even considered to be irritations. Orthner (1980) found that respondents did not usually feel close to neighbors and were not likely to contact them when they had a problem. In a study of civilian neighboring activity it was found that neighboring occurred more frequently the longer the respondent had lived in the community (Ahlbrandt, 1984). The high rate of mobility among military families may account for the lower rates of neighboring. It may require

too much effort to get close to one's neighbors when one of you will be moving again in the near future. It may even be too emotionally draining to begin making binding ties that could lead to friendships (Woolley-Downs, 1979).

It is difficult to hypothesize differences between husbands and wives in this model because of the scarcity of literature that has examined husband's neighboring activity. Martin's (1985) work supports a life cycle hypothesis that young, first-term wives are more likely to engage in neighboring activity, however there is no corroboration to support this proposition.

Confidence in the hypothesized relationships is fairly strong. Evidence suggests that neighboring activity is not that strong in military communities. This would then account for low rates of involvement in voluntary organizations (Orthner et al., 1985), and lower rates of strong long-term ties among military personnel and their families with others in the military.

Voluntary Organizations

Participation in voluntary organizations is the second variable in the informal support factor. Voluntary organizations are defined as any group in which a respondent maintains membership and his/her participation is not paid. These groups include wives clubs, the Red Cross, churches, PTA, little league, and ombudsman groups. A direct, positive influence is hypothesized between participation in voluntary organizations and friendships. As with the neighboring variable, indirect influences are hypothesized through friendships with support program awareness and attitudes, and retention intentions.

Participation in voluntary organizations has yet to be directly measured in any military literature. Civilian organizational involvement was measured by Ahlbradnt (1984). This study queried respondents concerning their involvement with neighborhood issues and membership in organizations dealing with neighborhood issues, such as PTA, little league and religious groups.

Military studies have examined the influence of participation in voluntary organizations only indirectly. For instance, Orthner and Bowen (1982) found that respondents who attended church regularly were more likely to be aware of support programs than those who did not attend church regularly.

Many wives find it difficult to participate in organizations because of lack of transportation or childcare services (Woolley-Downs, 1979). Spouses who had been in the military community longer were more likely to be involved in voluntary organizations. These women were older, and their active duty spouses were more likely to be of higher ranks than women who were not involved in voluntary organizations. Thus, the younger women were more isolated and had less of an opportunity to make friends with other women in their military community. Additionally, these women have less opportunity to find out about support programs that might be helpful to them.

At this time it is possible only to hypothesize about the influence of volunteer organizations. Through direct measurement of the influence of this variable, more complete and confident generalizations can be made.

Friendships

The last variable in the informal support factor, and in the model, is friendships. Friendships are the personal, confidante level interactions between active duty members and between family members with others in the military community. Friendships are hypothesized to directly effect several other variables. Direct positive effects are hypothesized between friendships and program awareness and attitudes, and the outcome variable, retention intention.

The literature on military friendships has generally asked respondents if they have friends to whom they feel close, or if there is at least one person in their community they consider a friend (Martin, 1985; Orthner, 1980). Friendships for military members are usually discussed in relation to co-workers, while spouse friendships are more often examined by examining neighboring activities (Little, 81; Woolley-Downs, 1979).

Active duty members are more likely to have friendships with co-workers than with people they do not work with. Thus, the linkage between friendships and retention has been more carefully studied for active duty members (Bonnette & Worstine, 1979). Peer relations were reported to be important to retention in both Navy and Marine Corps studies (Nieva, Hernandez, Waksberg & Goodstadt, 1982). The more cohesion experienced by service members, the more likely they were to decide to remain in the military. Little (1981) describes friendships in the military as being more instrumental than expressive. In other words, people become friends in the military more for what they can do for each

other, e.g. career advancement or survival, rather than for personal self-disclosure. During basic training, friendships form rapidly among new recruits; they are all in the same situation, they are often required to team up on learning experiences, and the solidarity of the peer group enables the recruits to stand up to the cadre of instructors and officers. Friendships are viewed as a survival tactic during this initial phase of indoctrination (Little, 1981).

Bonette and Worstine (1979) report that not getting along with the people they work with, is one reason for Army separation. Without peer cohesion people often feel more dissatisfied with their situation. Quality circles are one method that has been found to increase cohesion and commitment to the workplace (Ingle & Ingle, 1982). Working together in a problem-solving group provides satisfaction and control, as well as providing more opportunity to interact with others in a positive manner.

Still, Orthner (1980) found that only 39% of Air Force husbands felt close to friends and only 22% would call on friends if a major problem arose. In contrast, Air Force wives and civilian wives felt much closer to friends, 54% and 55% respectively. They were also more likely to contact friends in the event of a major problem, 39% and 37% respectively. However, not all studies have found friends to be a source of support for spouses. Friends, who were initially seen as a source of support, were later viewed as a source of additional demands on time and energy (Van Vranken, Jellen, Knudson, Marlowe & Segal, 1984). Spouses also report that it is through friends that they often hear about support programs, potential difficulties that they may find in using them, and whether it is worth their effort (Woolley-Downs, 1979). In summary, friends can be very helpful if they do not demand too much time or energy from the spouse.

From the literature, differences are hypothesized between husbands and wives friendships. As in the civilian community, husbands' friendships are more instrumental, while wives' friendships are more expressive. Confidence in these results is fairly strong, although more direct linkages need to be tested between wives friendships and their support for their husbands commitment to the military. Only Orthner and Pittman (1985) have tested the linkage between wives' social network and her support for husband's career. These researchers found the link to be strong and positive. However, further investigation is required to allow generalization.

LINKAGES BETWEEN COMMUNITY AND OTHER VARIABLES AFFECTING RETENTION

Even though the primary attention of this paper has been on the relationship between community variables and retention intentions of personnel, it is not assumed that community variables act alone on retention decisions. Quite the contrary, it is hypothesized that community related variables act in concert with family, economic, job and organizational culture to influence the retention attitudes and behavior of military personnel. By themselves, community variables probably predict a significant proportion of the variance in retention behavior but the total variance is explained to a large extent by the other variables as well.

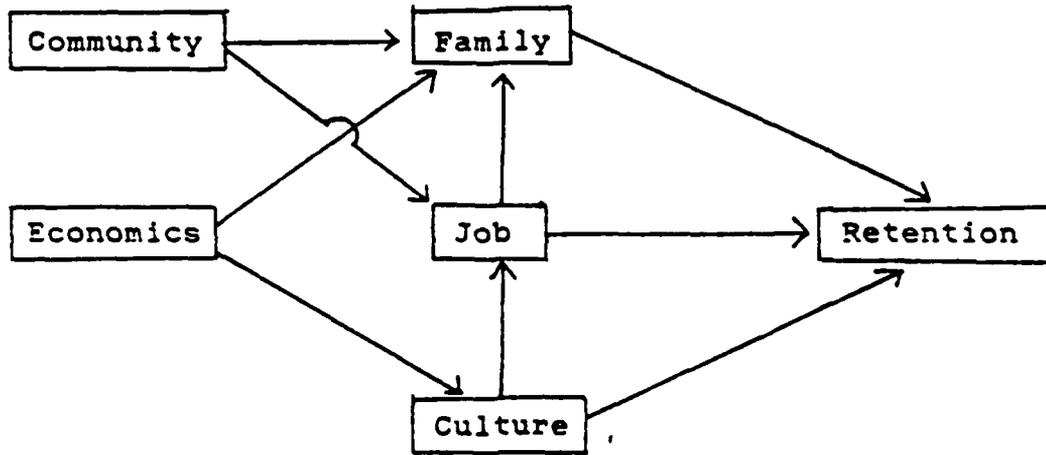
The model presented in Figure D3 proposes hypothetical linkages between community and the other variables in the overall model that are expected to influence retention intentions and behavior. The model is a general model in that specific components of community are not identified nor are the subcomponents of the other constructs in the model specified as well. The model has been prepared in a recursive manner in order to reflect the direction of expected influences, based upon theory and research. It is expected, however, that some of these influences are actually bidirectional and the model may be somewhat nonrecursive, once the specific components of the variables and constructs are specified and measured.

As noted in the hypothesized model, community variables are expected to have their primary influences on family and job attitudes and commitments. First of all, the influence of community on family variables was hypothesized in many of the specific relationships proposed earlier in the paper. The family is, perhaps, the most important informal support network that the individual depends upon. Community policies, support programs and housing all influence the family as well as the member of the organization. In addition, friendships, neighboring, and voluntary organizations often result from family investments as well as those of the individual. Thus, family attitudes are often influenced strongly by the extent to which the community supports them and they in turn support the individuals' work commitments based in part upon their community support.

Support for the hypothesized linkages between community, family and retention is found in the recent research conducted by Orthner and Pittman, (1984 & 1985). Both a path analytic study and a LISREL study, found that

Figure D-3

General Model of Factors that Predict Personnel Retention



perceived community support for families was predictive of family support for a military career. Although these studies did not fully measure the constructs as proposed in this and the related papers, it is suggestive of the proposed linkages hypothesized in the model.

Community variables are also expected to directly influence the job satisfaction of military personnel. In this hypothesis, it is assumed that interpersonal relationships, support programs, community policy and other such variables influence the attitude that the military member has towards his or her organization, post, or the service at large. Much of the current job enrichment literature suggests that friendships and other social network considerations are very important to people's job performance and attitudes. While this linkage will require more careful empirical study in the future, the Orthner & Pittman (1985) LISREL study again suggests that this path of influence from community variables to job satisfaction to retention can be empirically supported. In fact, that study found that retention attitudes were influenced by community support attitudes, both indirectly through family and directly through job considerations.

Further elaboration of the proposed model suggests that economic variables are also exogenous to the model. Economic variables are proposed to influence family attitudes and job attitudes as well as perceptions of the organization's culture. Thus, economic variables have a pervasive influence on retention through the major mediating variables in the model. To some extent, economic variables even impact upon the community through such things as housing quality and the ability to compensate for inadequacies in post support programs with those of the local community. This relationship is not elaborated in the model, however, since it is much more speculative than the other proposed paths of influence.

The primary direct effects on retention attitudes and behavior in the model come from family, job, and organizational culture variables. According to the model and the literature to date, the organization, through its culture, and the family, through its interpersonal support systems, can have a major influence upon job attitudes of personnel. Likewise, they are expected to have direct influences on retention attitudes, in addition to their indirect influence through influencing job attitudes, performance and behavior. Retention intentions, therefore, are expected to be a product of the immediate environment within which the individual is working and living.

CONCLUSIONS

It has been proposed in this paper that community variables are potentially important predictors of retention attitudes and behavior among military personnel. A model has been developed and proposed that suggest that community satisfactions are derived from the structure of the community, formal support systems and informal support systems. These three components of the community were derived from the major theoretical frameworks that have been utilized in community development and community analysis. A specific model linking community variables and retention was developed and elaborated.

Based upon the research and theoretical developments to date, it is reasonable to assume that community variables should be included in future comprehensive models of work attitudes, retention intentions and personnel turnover. Both formal and informal support networks play an important part in the definitions workers and/or military members make of the environment within which they must work and dedicate their lives. The community, like the economy, is an important context within which definitions of quality of life are made. Community variables define an important area of individual and relational needs that, if not met, are likely to result in significant personal dissatisfaction. If military leadership is defined as responsible for community attitudes and services, this dissatisfaction will be generalized to the military organization that supports that leadership and the programs and services that flow from it.

One of the benefits of considering community variables in retention is the ability of these variables to be changed. While interventions in other retention related factors are also possible, community variables are often under the direct impact of post leadership. In a recent study at Ft. Benning, Georgia, for example, both active duty personnel and spouses indicated that their attitudes toward the Army were positively influenced by the development of a community life office on post which was responsible for meeting housing needs and improving access to formal and informal support systems (Orthner et al., 1985). While this program was in the beginning stages of development, it indicated there was significant potential for community intervention on an Army post, resulting in improving quality of life and work attitudes and commitments. Likewise, recent studies in USAREUR indicate that attitudes toward the formal and informal support systems have an important effect on peoples attitudes towards the Army and their willingness to support their spouse's career or continue their own

career in the Army (Martin, 1985). These studies are as yet suggestive but they do indicate that community variables should be seriously considered in future retention related studies.

In conclusion, the research on community linkages to retention intentions is as yet incomplete but worthy of further consideration. As yet, no definitive study on these linkages has been undertaken but several studies indicate that the relationships are worthy of further research. Theoretical justification for including community variables in a work/retention model is also noted in the literature, even though most research to date has focused on either community or work and not on the interface between the two. It is time to look more carefully at these linkages and a military environment is a perfect arena within which to explore these relationships.

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Toward an Application of the Concept of Organizational Culture to the
Modeling of Army Retention Decision-Making

by

Gary L. Bowen

A Brief Discussion

The purpose of this paper is to briefly address the concept of organizational culture and its implications as a factor in understanding the retention decision-making process of military members. The ideas presented in this discussion result from a review of literature to better define the concept of "culture," to understand its role and implications for organizations, to identify logical categories for assessing its presence, and to discuss how the concept of culture potentially fits into a comprehensive, conceptual model of retention decision-making.

The Concept

Although the concept of organizational culture has come to be regarded as the key to understanding organizational excellence (Deal & Kennedy, 1982; O'Toole, 1979; Peters & Waterman, 1982; Schein, 1984, 1985), the concept itself is definitional diffuse. In the literature, the definitional boundaries of the concept are often not distinguished from the role and function that "culture" serves for the organization. In working toward a formal definition of the concept, Schein (1985, p. 6) outlines some common meanings:

>Observed behavioral regularities when people interact, such as the language used and the rituals around deference and demeanor (Goffman, 1959, 1967; Van Maanen, 1979b).

>The norms that evolve in working groups, such as the particular norms of "a fair day's work for a fair day's pay" that evolve in the Bank Wiring Room in the Hawthorne studies (Homans, 1950).

>The dominant values espoused by an organization, such as "product quality" or "price leadership" (Deal and Kennedy, 1982).

>The philosophy that guides an organization's policy toward employees and/or customers (Ouchi, 1981; Pascale and Athos, 1981).

>The rules of the game for getting along in the organization, "the ropes" that a newcomer must learn in order to become an accepted member (Schein, 1968, 1978; Van Maanen, 1976, 1979b; Ritti and Funkhouser, 1982).

>The feeling or climate that is conveyed in an organization by the physical layout and the way in which members of the organization interact with customers or other outsiders (Tagiuri and Litwin, 1968). (p. 6)

Schein (1984) provides perhaps the most comprehensive definition of organizational culture:

... a pattern of basic assumptions that a given group has invented, discovered, or developed in learning to cope with its problems of external adaptation (those that deal with the group's basic survival, such as the basic function, primary task, or ultimate mission of the group) and internal integration (those that deal with the group's ability to function as a group, such

as group building and maintenance, or integration problems), and that have worked well enough to be considered valid, and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems. (p. 3; p. 9)

Schein's definition of organizational culture goes beyond other definitions to focus more on its evolvement, its functions for the organization, and its source of change. For example, Deal and Kennedy (1982) define organizational culture more narrowly as "a system of informal rules that spells out how people are to behave most of the time" (p. 15). Preferring the term "organizational ideologies" to "organizational culture," Harrison (1972) used the term to describe "systems of thought that are central determinants of the character of organizations" (p. 119). Continuing he describes an organization's ideology as influencing decisionmaking strategies, the use of human resources, and the nature of organizational-environmental relations.

The Role of Culture and Its Implications for Organizations

Harrison (1972, p. 120) outlines six important functions that an ideology performs for an organization:

>Specifies the goals and values toward which the organization should be directed and by which its success and worth should be measured.

>Prescribes the appropriate relationships between individuals and the organizations (i.e., the "social contract" that legislates what the organization should

be able to expect from its people, and vice versa).

>Indicates how behavior should be controlled in the organization and what kinds of control are legitimate and illegitimate.

>Depicts which qualities and characteristics of organization members should be valued or vilified, as well as how these should be rewarded or punished.

>Shows members how they should treat one another-competitively or collaboratively, honestly or dishonestly, closely or distantly.

>Establishes appropriate methods of dealing with the external environment-aggressive exploitation, responsible negotiation, proactive exploration. (p.120)

From Harrison's point of view, organization ideology does more than provide a set of "do's" and "don'ts" for behavior, it establishes a basis for the type of behavior that is preferred. According to Harrison, the organizational ideology has its greatest influence on behavior within the organization when people desire the rewards and incentives that are consistent with the culture.

Schein (1984) is quick to indicate that an organization is not necessarily limited to a single, identifiable culture; organizations can have multiple cultures which may be more or less compatible in their prescriptions and prohibitions for behavior. The presence of multiple cultures is particularly likely in organizations that have strong structural dimensions which may be defined by divisional, geographic or

rank-based subgroups (Schein, 1984). According to Schein (1984), the influence of the culture on individual behavior is influenced by the relative "homogeneity" and "stability" of group membership and by the "length" and "intensity" of experiences that are shared by the group.

It is also important to note that organizational cultures are dynamic and reflect learned responses by members of the organization in their attempt to perform their jobs and to function as a group (O'Toole, 1972; Schein, 1984). Shifts in the nature of organizational culture over time may occur both through developmental processes as well as through the deliberate activities of key players in the organization. It is important to note that the relative strength of a culture is not necessarily associated with organizational effectiveness. The effect of "culture" on organizational effectiveness will depend on its nature and its congruency with the challenges faced by the organization from its environment and its membership (Schein, 1984).

The Assessment of Organizational Culture

Any attempt to uncover the culture of an organization requires delving into the underlying assumptions that govern its interaction both within and outside its boundaries (Schein, 1985). Although these assumptions influence the perceptions, thoughts, and feelings of members within the organization, they are typically unconscious and are identified only through a type of "focused inquiry" with group members (Schein, 1984, p. 4; Schein, 1985).

Schein (1984, p. 3) proposes that organizational culture can be studied at several different levels, starting with "visible artifacts" of an organization--the manner of dress and behavior of its members, as well as its formal policy statements. Although these data are often readily available, their interpretation is often difficult without the assistance of group members (Schein, 1984). With the aid of group members, it is possible to analyze culture at a second level: the level of values that influence the actions of members. However, according to Schein (1984) these espoused values often serve to justify behavior; the real reasons for behavior typically remain more diffuse and not in the realm of consciousness.

To fully understand the culture of an organization and the values and behavior of group members, Schein (1984, p. 3) advocates that we must uncover the "underlying assumptions" of the organization--responses that began as overt and expressed values but which have repeatedly worked and proven functional to become assumed by organizational members and dropped from consciousness (e.g., the military mission is important; business should be profitable; medicine should save lives). Based on the work of Kluckhohn and Strodtbeck (1961), Schein (1984, p. 6) suggests that these assumptions can be divided into logical categories for study: "(1) the relationship of the organization to its environment; (2) the nature of reality and truth; (3) the nature of human nature; (4) the nature of human activity; and (5) the nature of human

relationships" (see Table E1).

These assumptions can only be discovered through a kind of "focused inquiry" (Schein, 1984, p. 4), including observations of group process over time and in-depth interviews with organizational members (O'Toole, 1979; Schein, 1984). Another strategy suggested by O'Toole (1979), would be to have the organization perform a self-analysis of its culture.

In recent years, there have been several attempts to develop paper and pencil tools for assessing organizational culture (O'Toole, 1979; Kilmann, 1984). For example, O'Toole (1979, pp. 23-26) developed one such device based on the suggestion of Walter Bennis (see Appendix A). A more recent discussion of a quantitative measuring device for assessing the culture of an organization was published by Kilmann (1984) in a book entitled, Beyond the quick fix: Managing five tracks to organizational success.

Organizational Culture: Implications for Modeling Retention

Although it may be possible to uncover the "organizational ideology or culture" of the military services to some degree, the military is certainly an example of an organization with multiple cultures. In addition, this task is clearly beyond the scope of the present modeling effort. One issue is integrating the concept of "culture" as defined in the literature to the present modeling task lies in viewing culture on a continuum of relative satisfaction--comparable to job, family, community, and economic. The

Table E-1

Table 1	Basic Underlying Assumptions around Which Cultural Paradigms Form
1.	The Organization's Relationship to Its Environment. Reflecting even more basic assumptions about the relationship of humanity to nature, one can assess whether the key members of the organization view the relationship as one of dominance, submission, harmonizing, finding an appropriate niche, and so on.
2.	The Nature of Reality and Truth. Here are the linguistic and behavioral rules that define what is real and what is not, what is a "fact," how truth is ultimately to be determined, and whether truth is "revealed" or "discovered"; basic concepts of time as linear or cyclical, monochronic or polychronic; basic concepts such as space as limited or infinite and property as communal or individual; and so forth.
3.	The Nature of Human Nature. What does it mean to be "human" and what attributes are considered intrinsic or ultimate? Is human nature good, evil, or neutral? Are human beings perfectible or not? Which is better, Theory X or Theory Y?
4.	The Nature of Human Activity. What is the "right" thing for human beings to do, on the basis of the above assumptions about reality, the environment, and human nature: to be active, passive, self-developmental, fatalistic, or what? What is work and what is play?
5.	The Nature of Human Relationships. What is considered to be the "right" way for people to relate to each other, to distribute power and love? Is life cooperative or competitive; individualistic, group collaborative, or communal; based on traditional lineal authority, law, or charisma; or what?

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analysis of culture per se is descriptive, members may confirm/disconfirm the underlying assumptions believed to guide the organization or identify/fail to identify with these assumptions, but it difficult to conceptualize these assumptions on a continuum of relative satisfaction.

Thus, the present task is not interpreted to require making definitive statements that reflect underlying values and assumptions concerning the nature of work and service in the United States Military to which respondents can evaluate on a dimension of relative satisfaction (a difficult and risky task). Instead it is to focus on those broad features/attributes of the military organization that serve as dimensions for specifying the culture of an organization but which can be evaluated on a continuum of relative satisfaction (e.g., opportunities for promotion, rules and regulations, treatment by superiors, respect for the individual soldier, support for families). The evaluation of these organizational attributes by the individual member/spouse includes but has a broader reference point of evaluation than just their present assignment situation; these evaluations reflect the weighted sum total of experiences in the military organization. For each dimension/attribute, the individual has a core of experiences to first define the meaning and parameters of the concept and then to evaluate their level of relative satisfaction.

This approach to integrating the notion of "culture" in a model of member retention decision-making has several

important advantages to attempting to specify and describe the organizational culture of the military per se. First, it does not depend upon making definitive, evaluative statements concerning the military organization. Second, by not making definitive statements, it allows members and spouses to evaluate each dimension on a continuum of satisfaction based on their own experiences--past and present. Third, there are obvious aspects of military service that may have an impact on the retention decision-making of members and spouses that have not been captured in the present model. Many of these variables are organizational in nature and may be captured on a continuum of satisfaction by adding this fifth variable domain: relative satisfaction with the military organization.

Some of these variables had been entered under "values" on the Army Policies and Practices variable domain in the comprehensive retention model developed by Gerald Croan, Chairman of the Families and Retention Panel. These as well as some additional variables that are suggested as potentially important to the retention decision-making of military members and spouses and which most clearly fall under this fifth domain of satisfaction are outlined below.

Chances for Adventure

Promotion Opportunities

Respect for the Importance of Family Life

Personal Freedom

Opportunities for Continued Self Improvement

Treatment by Superiors
 Rules and Regulations
 Job Security
 Travel Opportunities
 Personal Management
 Treatment by Civilians
 Physical Training and Challenge
 Credit for Doing a Good Job
 Chance to do Something for your Country
 Opportunities to Develop Job Skills
 An Environment to be "ALL THAT YOU CAN BE"
 Respect for the Individual
 Overall Support for Family Life
 The Openness of Leadership to New Ideas
 Ability to Work with Others as a Team
 An Opportunity to Continue a Family Tradition of Service
 An Opportunity to Fulfill my Patriotic Duty

These are only examples of variables that could be considered to fit under this specific variable domain. An important recognition is that although these types of variables have not been captured by the model, they have face validity and some empirical support as influencing the retention decision. The reader should note in particular the attempt in the variables outlined above to capture motivational aspects of service (e.g., a chance to do something for my country), a concept considered by some researchers to be critical to understanding retention

decision-making (e.g., Segal, Blair, Lengermann, & Thompson, 1983).

Although the purpose of this brief paper is not to review the literature concerning the relationship between the variables outlined above and the retention decision-making of military members and spouses, it is suggested that this aspect of the model be given equal attention as the other variable domains. In addition to suggesting continued work on this variable domain, it is suggested that the comprehensive retention model developed by Gerald Croan be revised to depict the member's and spouse's relative satisfaction with the military organization as impacted by both job conditions and community conditions as well as Army policies and practices.

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Institutional Biography of Corporation Z

1. *Age*—Apart from the actual chronological age of the company, would you characterize Z as:

- | | |
|-------------------------|----------------|
| a. An infant | f. Young adult |
| b. A toddler | g. Adult |
| c. Prepubescent | h. Middle-aged |
| d. Adolescent | i. Old |
| e. Suspended adolescent | j. Senile? |

2. *Health*—Apart from the financial health of the organization, would you characterize the state of health at Z as:

- | | |
|--|-------------------------|
| a. Robust | f. Remittently feverish |
| b. Sound | g. Declining |
| c. Better than can be expected,
given Z's age | h. Infirm |
| d. Improving | i. Paralyzed |
| e. Convalescing | j. Call the mortgage? |

3. *Key Events*

a. Describe the three most pivotal events that have occurred since the founding of Z:

1) _____ 2) _____ 3) _____

b. What is the *best* thing that has occurred at Z during the past two years? Why?

c. What is the *worst* thing that has occurred at Z during the past two years? Why?

4. *Qualifications*

a. What distinctive competencies does Z possess?

b. What competencies does it need to develop? Why?

5. *Characteristics*

a. What five short, descriptive phrases or adjectives best describe Z?

b. Circle the phrase/word you'd most like to change.

c. Underscore the phrase/word you'd most like to preserve.

Source: O'Toole, J.J. (1979). Corporate and managerial cultures. In C.L. Cooper (Ed.), Behavior problems in organizations (pp. 7-28). New York: Prentice-Hall.

6. *Norms of the Organization*

a. How much contact and interaction is required among people at Z?

1 2 3 4 5 6 7

Virtually None

A Great Deal

b. What amount of intimacy is appropriate at Z?

1 2 3 4 5 6 7

Intimate, Informal

Distan., Formal

c. To what extent are people encouraged to be collaborative and mutually supportive?

1 2 3 4 5 6 7

Environment is
Collaborative, Supportive

Environment is
Individualistic, Unhelpful

d. How would you describe the decision-making climate at Z?

1 2 3 4 5 6 7

Authoritarian

Participative

e. To what extent is Z a place where people are happy with their work?

1 2 3 4 5 6 7

Happy

Unhappy

f. To what extent does ability count at Z, or is it *who* you know that is the key to rewards and promotions?

1 2 3 4 5 6 7

What you know

Who you know

g. To what extent is Z open to new ideas?

1 2 3 4 5 6 7

Open

Closed

h. To what extent does Z accept employees with nontraditional life styles or views?

1 2 3 4 5 6 7

Open

Closed

i. To what extent are people encouraged to take risks?

1 2 3 4 5 6 7

Risk-Taking Rewarded

Play-it-Safe Rewarded

j. To what kinds of outside organizations do most managers at Z belong? (Circle no more than three.)

1) Country club

5) Church groups

2) Rotary club

6) Sierra club

3) Exclusive downtown men's club

7) Common cause

4) The Y

8) None

k. Who gets promoted at Z? (See Maccoby for description of types.)

1) The "Craftsman"

4) The "Gamesman"

2) The "Jungle Fighter"

5) The "Entrepreneur"

3) The "Company Man"

6) Other (Describe)

7. *Nature of Work*

a. What is the rhythm of life at Z? (Circle one.)

- | | |
|--|------------------|
| 1) A 6-day, 12-hour grind | 4) Seasonal |
| 2) Typical 5 days a week, 8 hours a day | 5) Relaxed |
| 3) Intermittent periods of pressure and relaxation | 6) Slow and dull |

b. To what extent is there attention to work *quantity*?

1	2	3	4	5	6	7
					A Great Deal	

c. To what extent is there attention to work *quality*?

1	2	3	4	5	6	7
					A Great Deal	

d. To what extent is *process* (bureaucratic, administrative processes) more important than the final *product*?

1	2	3	4	5	6	7
Product-Oriented			Process-Oriented			

e. To what extent are there opportunities to learn on the job?

1	2	3	4	5	6	7
Learning-Oriented Organization				Must Have All Skills before You Start		

8. *External Affairs*

a. How concerned is Z with the welfare of the local community?

1	2	3	4	5	6	7
Great Involvement				No Interaction		

b. How concerned is Z with the welfare of its consumers?

1	2	3	4	5	6	7
Consumer-Oriented				"Let the Buyer Beware"		

c. What is the typical image that outsiders have of Z?

1	2	3	4	5	6	7
Good Guys				Bad Guys		

d. Why does Z have this image?

9. What do you think Z wants to be when it grows up?