

UNCLASSIFIED

AD NUMBER
ADB225872
NEW LIMITATION CHANGE
TO Approved for public release, distribution unlimited
FROM Distribution authorized to U.S. Gov't. agencies only; Proprietary Info.; Oct 96. Other requests shall be referred to Commander, U.S. Army Medical Research and Materiel Command, Attn: MCMR-RMI-S, Fort Detrick, Frederick, MD 21702-5012.
AUTHORITY
USAMRMC, Fort Detrick, MD ltr dtd 11 Mat 1998

THIS PAGE IS UNCLASSIFIED

AD _____

MIPR 95MM5533

TITLE: Social Environment and Stress Factors that Relate to Well-Being, Satisfaction and Attitudes Toward Retention and Deployability in Married and Single Parent Female Soldiers

PRINCIPAL INVESTIGATOR: MAJ Patti L. Johnson

CONTRACTING ORGANIZATION: Walter Reed Army Medical Center
Washington, DC 20307-5001

REPORT DATE: October 1996

TYPE OF REPORT: Final

PREPARED FOR: Commander
U.S. Army Medical Research and Materiel Command
Fort Detrick, Frederick, Maryland 21702-5012

DISTRIBUTION STATEMENT: Distribution authorized to U.S. Government agencies only (proprietary information, Oct 96). Other requests for this document shall be referred to Commander, U.S. Army Medical Research and Materiel Command, ATTN: MCMR-RMI-S, Fort Detrick, Frederick, MD 21702-5012.

The views, opinions and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision unless so designated by other documentation.

DTIC QUALITY INSPECTED 3

19970711 096

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE October 1996	3. REPORT TYPE AND DATES COVERED Final (21 Nov 94 - 30 Sep 96)	
4. TITLE AND SUBTITLE Social Environment and Stress Factors that Relate to Well-Being, Satisfaction and Attitudes Toward Retention and Deployability in Married and Single Parent Female Soldiers			5. FUNDING NUMBERS 95mm5533	
6. AUTHOR(S) MAJ Patti L. Johnson				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Walter Reed Army Medical Center Washington, DC 20307-5001			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Medical Research and Materiel Command Fort Detrick Frederick, Maryland 21702-5012			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Distribution authorized to U.S. Government agencies only (proprietary information, Oct 96). Other requests for this document shall be referred to Commander, U.S. Army Medical Research and Materiel Command, ATTN: MCMR-RMI-S, Fort Detrick, Frederick, MD 21702-5012.			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200) See attached				
14. SUBJECT TERMS Defense Women's Health Research Program			15. NUMBER OF PAGES 35	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT Limited	

FOREWORD

Opinions, interpretations, conclusions and recommendations are those of the author and are not necessarily endorsed by the U.S. Army.

N/A Where copyrighted material is quoted, permission has been obtained to use such material.

N/A Where material from documents designated for limited distribution is quoted, permission has been obtained to use the material.

N/A Citations of commercial organizations and trade names in this report do not constitute an official Department of Army endorsement or approval of the products or services of these organizations.


N/A In conducting research using animals, the investigator(s) adhered to the "Guide for the Care and Use of Laboratory Animals," prepared by the Committee on Care and use of Laboratory Animals of the Institute of Laboratory Resources, national Research Council (NIH Publication No. 86-23, Revised 1985).

JS For the protection of human subjects, the investigator(s) adhered to policies of applicable Federal Law 45 CFR 46.

N/A In conducting research utilizing recombinant DNA technology, the investigator(s) adhered to current guidelines promulgated by the National Institutes of Health.

N/A In the conduct of research utilizing recombinant DNA, the investigator(s) adhered to the NIH Guidelines for Research Involving Recombinant DNA Molecules.

N/A In the conduct of research involving hazardous organisms, the investigator(s) adhered to the CDC-NIH Guide for Biosafety in Microbiological and Biomedical Laboratories.


PI - Signature

28 Oct 96
Date

Table of Contents

Abstract.....	1
Introduction.....	2
Method.....	5
Results.....	8
Discussion.....	13
References.....	19
Tables.....	23

Abstract

Active duty female soldiers who were married, married with children, or single parents participated in this study. They completed questionnaires assessing various areas of functioning: family stress, work stress, interrole conflict, perceived social support, job and army life satisfaction, intent to stay on active duty, and attitudes toward deployment. The results indicated that stress variables were significantly associated with the adjustment indices to include intent to stay on active duty and attitudes toward retention. The most consistent predictors of adjustment were immediate work environment and global family stress and change. In addition, social support also was significantly correlated with both the stress and adjustment variables. Using only women who were mothers, the predictor variables significantly discriminated between those who were unlikely to stay on active duty versus those who were highly likely to stay on active, as well as those who had negative attitudes toward deployment versus those with positive attitudes toward deployment. The results are discussed in terms of their similarity to studies with civilian women, as well as their implications for methods to increase retention and readiness for deployment of active duty military women in dual roles.

Introduction

Women in the United States have increasingly expanded their roles by assuming a greater proportion of the work force. In 1950 women with preschool children comprised 12% of the work force versus 52% in 1986.¹ In an effort to evaluate the effects of increased roles on women and their families, researchers have studied women in the work force for the past several decades. Trends emerging from these studies demonstrate that women continue to perform the greatest proportion of household responsibilities, despite reducing their housework and childcare when they are employed. Additionally as women's roles have expanded the concept of role overload has emerged.² Initially the impact of women working and role overload was thought to have negative effects on the employed women, their adult relationships and their children. However, Stewart, Barnett and Verbrugge in three independent studies found that women's well-being becomes no worse or even improves with increased roles.^{3,4,5} Additionally, in a review of 17 studies, Bamundo and Kopelman found that 16 of the 17 studies reported a positive relationship between job satisfaction and life satisfaction for employed women.⁶ Employment can however present other psychological stress such as decreased job role quality and increased levels of psychological distress as determined by Barnett, Marshall and Singer.⁷ Furthermore, Emmons, Beirnat, Tiedje, Land and Wortman found that working wives and mothers who report experiencing substantial role overload also experience the greatest amount of interrole conflict.⁸ In an attempt to look at a military population, a study of Navy women was conducted by Kelly, Herzog-Simmer, and Harris who reported that during predeployment mothers experienced increased parenting stress and separation anxiety from their children suggesting that this military demand increases psychological stress for these women.⁹

Several variables appear to moderate the relationship between negative work and home environment and well-being and satisfaction. In particular, social support may provide a buffer against the negative effects of stress. Cohen in a review of the literature looked at whether the positive relationship between support and well-being was due to a direct effect or due to a buffering effect where the individual is protected from adverse events by their support systems.¹⁰ The review found support for both theories with support for the buffering model found when the social support measures assess the perceived availability of interpersonal resources for the stressful event. Evidence for the main effect model was found when the support measures assess the person's degree of integration into a large social network. In addition to social support, perceived organizational support has been shown to moderate the negative effects of stress. Eisenberger and his colleagues found that increased perceived organizational support reduced absenteeism and this relationship was enhanced if employees had a strong exchange ideology (a belief that more work means more reward).¹¹

Besides social and organizational support, the meaning women attach to their provider roles also impacts their well-being and their relationships. In particular, higher rates of depression and overload were noted in women who were either ambivalent about their provider role or who saw their provider role as secondary to their husbands. Those who were ambivalent about their role had lower marital satisfaction, while those who viewed their role as secondary to their husbands had higher rates of marital satisfaction.¹²

Studies evaluating family support have found both positive and negative effects for family support. MacEwen and Barling's study found that women with high family support and high interrole conflict experienced more marital problems.¹³ Procidano however found that

increases in perceived social support from both friends and family lowered symptoms of distress and psychopathology with a stronger association for the support from families.¹⁴

Two recent studies have evaluated the effects of deployment on children's mental health, and included data regarding parents' well-being, family functioning and marital satisfaction during deployment. While these studies did not differentiate dually employed parents or active duty mothers, the effects of deployment are still notable assuming that the added employment would present an additional role and/or stressor for mothers. Jensen, using the Social Assets Scale, the Center for Epidemiologic Studies - Depression Scale (CES-D), and the Dyadic Adjustment Scale found increased rates of depression for parents with deployed spouses, and increased stressors, but there was no effect on marital adjustment, social supports or coping.¹⁵ Breda found similar results, namely that families experiencing deployment of a member had more stress, more negative attitudes toward the military and greater stress for the parent remaining at home. Deployment status did not however affect overall family functioning or marital satisfaction.¹⁶

The military presents a unique environment and the degree to which these studies done in the civilian sector apply to military women is not known. The current study examined those variables which are related to satisfaction, well-being, retention and deployability using a military population of women in dual roles. Specifically, the study examined how social environment and stress factors relate to well-being, job satisfaction, army life satisfaction, intent to stay on active duty, and attitudes toward deployment for married, married with children, and single parent female soldiers. Additionally, the study evaluated whether social support buffered the effects of stress on the indices of well-being and satisfaction. The study also assessed the

differences in social environment and stress between women who intend to remain on active duty versus those who do not, and the differences in social environment and stress between women who perceive they are ready for deployment versus those who perceive they are not.

Method

Participants

One hundred ninety four active duty female soldiers who were married, married with children, or single parents participated in this study. They were volunteers from three military sites: Walter Reed Army Medical Center, Washington, DC (34), Ft. Meade, MD (88), and Ft. Bragg, NC (72). A majority of the sample were married (70%), and of those who were married, over half (52.5%) were dual military. One hundred fifty nine of the participants were mothers. Of the single parents (N=57), 61% were divorced, 39% were never married, and none were widowed. The average number of children for mothers in this study was 1.6. Approximately 45% of the participants were Caucasian, 43% African-American, 7% Hispanic, and 3% of other ethnic/racial origins. The average years of education for the sample was 13.8. Enlisted soldiers represented 85.6% of the sample, and officers 14.4% of the sample.

Measures

1. Work Environment Survey. This is a 25-item scale, modified from a longer version and specifically targeted for use with a military population. The alpha coefficient for this measure is .95, and it has been shown to relate to general job stress and psychological distress.¹⁷ The scale generates a single factor score of perceived work environment/stress at the present job.

2. Work Change Events Survey. This is a 9-item measure of global work stress related

to change and adjustment. The alpha coefficient is .76, and this measure correlates with work environment and psychological distress.¹⁷

3. Family Index of Regenerativity and Adaptation - Military. This is a measure developed by McCubbin and his colleagues to assess a variety of aspects of military family functioning.¹⁸ The measure generates six subscales: Family Changes and Strains (global life stressors), Self-Reliance Index (degree to which spouse is self-reliant), Family Index of Coherence (coherence between family and military needs), Social Support Index (general social support from various sources), Family Member Well-Being (in this study military member self-report of her overall well-being), and Family Adaptation Checklist (overall adjustment of the family). The internal consistency of each measure is adequate, ranging from .79 - .88. Furthermore, initial validation studies on active duty males suggest it is a valid measure. For completeness, the entire FIRA-M was administered; however, the scales of primary interest for this study were the Family Changes and Strains, Social Support Index, Family Index of Coherence, and Family Member Well-Being.

4. Interrole Conflict Scale. This 8-item scale assesses the degree to which job and family demands conflict.¹⁹ The scale has good internal reliability, discriminant validity, and convergent validity.²⁰

5. Maternal Separation Anxiety Scale. This 35-item scale generates three subscales based on factor analytic studies: Maternal Separation Anxiety, Perception of Separation Effects on the Child, and Employment-Related Separation Concerns.²¹ Cronbach's alpha for each subscale ranges from .71 to .90. For completeness, the entire scale was administered; however, for purposes of the current study the Maternal Separation Anxiety subscale was utilized.

6. Survey of Perceived Organizational Support. The current study used the brief version of the SOPOS which has been shown to have good internal consistency ($\alpha = .93$), and construct validity.²²

7. Perceived Social Support Scale. This scale generates two subscales: perceived support from family and perceived support from friends. The Cronbach's alpha is .90 and .88 for each subscale, respectively, and research has indicated that these scales measure valid constructs.¹⁴

8. Work Apgar Scale. This 5-item measure of perceived co-worker support was modeled after the Family Apgar Scale.²³

9. Job Satisfaction Scale. This brief measure of overall job satisfaction has been shown to be internally consistent ($\alpha = .78$) and related to work environment.⁸

10. Army Life Satisfaction. This 11-item scale which assesses satisfaction with the army lifestyle was developed by researchers at the Walter Reed Army Institute of Research, and has adequate reliability and validity indices.²⁴

11. Beck Depression Inventory. The BDI assesses an individual's current state of distress and depressive symptoms. Nietzel, Russell, Hemmings, and Gretter²⁵ report that the measure has good internal consistency, test-retest reliability, and concurrent validity.

12. Intent to Remain on Active Duty and Readiness/Attitude Toward Deployment. Participants responded to items designed specifically for this study assessing their intent to remain on active duty and their attitude toward deployment.

Procedure

Participants were volunteers who responded to advertisements or briefings soliciting participation in the study. The majority of participants completed the questionnaires in a group

setting, but due to scheduling conflicts some participants completed the questionnaires in an individual context. The questionnaires were administered by the first and second authors. A subset of the participants also completed an individual structured interview assessing their military experiences, but those results are not discussed in this paper. Participation was completely voluntary, and no reimbursements or special privileges were available to participants.

Results

Relationship between stress and satisfaction. A correlation matrix was calculated using the entire sample of participants. The first order correlations between the stress variables (Work Environment Survey, Work Change Events Survey, Family Changes and Strains, Family Index of Coherence, Interrole Conflict Scale, and Maternal Separation Anxiety Scale) and the measures of satisfaction/well-being (Family Member Well-Being Scale, Beck Depression Inventory, Job Satisfaction Scale, Army Life Satisfaction Scale, Intent to Remain on Active Duty, and Attitude Toward Deployment) are listed in Table 1. Of the 36 correlations, 34 were significant at the .05 level or higher. In general, the results indicate that those women experiencing higher levels of family and work stress tended to experience poorer emotional adjustment, less job and army life satisfaction, were less likely to intend to remain on active duty, and were less likely to have positive attitudes toward deployment.

A series of simultaneous multiple regression analyses using the stress variables as predictors and each satisfaction/well-being variable as dependent variables was conducted for both the entire sample as well as mothers only. For the entire sample, the work and family stress variables accounted for a significant amount of variance in each of the satisfaction/well-being variables evaluated, with the amount of variance accounted for ranging from 11% to 48% (See

Table 2). The stress variables assessed in this study were most highly predictive of job and army life satisfaction, and individual well-being. Although statistically significant, they accounted for relatively less variance in intent to stay on active duty and attitude toward deployment. Of all the predictor variables, perceived stress in the immediate work environment was most consistent in accounting for a significant amount of variance in all six of the dependent variables, with global family changes and strains accounting for a significant amount of variance in all but one of the dependent variables (Attitude Toward Deployment).

Utilizing only the mothers in the sample (N=159) (includes married women with children and single parents; excludes married women without children), the work and family stress variables (with the inclusion of Maternal Separation Anxiety) accounted for a significant amount of variance in each of the satisfaction/well-being variables, ranging from 12% to 50% of the variance (See Table 3). The pattern of results was very similar to that of the entire study sample. Again, the stress variables were most highly predictive of job and army life satisfaction as well as individual well-being, with variance in intent to stay on active duty and attitude toward deployment accounted for to a relatively lesser degree. As with the entire sample, the immediate work environment was the most consistent predictor variable, accounting for a significant amount of variance in five dependent variables, and approaching significance for the sixth (Family Member Well-Being). Also, family changes and strains accounted for a significant amount of variance in both measures of well-being, job satisfaction, and intent to stay on active duty, with a tendency toward accounting for significant variance in army life satisfaction. The Maternal Separation Anxiety Scale accounted for a significant amount of variance in the measures of individual well-being and attitude toward deployment, but not the other dependent

variables.

The Role of Social Support. Correlations were computed between the social support variables and both the stress and satisfaction variables (See Table 4). Of the 60 correlations generated, 50 were significant at the .05 level or higher. In general, those women who reported perceptions of positive social support experienced less family and job stress, had an increased sense of well-being, were more satisfied with their jobs and army life, and had more positive attitudes toward deployment. Most social support measures did not correlate significantly with intent to stay on active duty.

In order to evaluate whether social support moderated the effect of stress on the satisfaction and well-being variables a series of hierarchical regression analyses were conducted (See Table 5). Given the theoretical considerations, the pattern and magnitude of first order correlations, and in order to limit the number of regression analyses, the regression analyses were conducted using either the Work Environment Scale or the Interrole Conflict Scale as the stress variable; Perceived Organizational Support as the social support variable; and either Family Member Well Being, Job Satisfaction, Intent to Stay on Active Duty, and Attitude Toward Deployment as the dependent variable (thus generating 8 hierarchical regression analyses). Only one interaction effect was significant; perceived organizational support moderated the effect of interrole conflict upon family member well-being. The regression of the work environment and perceived organizational support indicated that each variable accounted for a significant amount of variance in family member well-being. The analyses using job satisfaction as the dependent variable indicated that both the stress variable (either work environment or interrole conflict) and perceived organizational support accounted for a significant amount of variance in job

satisfaction. Alternatively, with either intent to stay on active duty or attitude toward deployment as the dependent variable, only the stress variable (either work environment or interrole conflict) accounted for a significant amount of variance in the dependent variable; perceived organizational support did not account for a significant amount of variance over and above the stress variables.

Discriminant Function Analysis. Two discriminant function analyses were performed using stress and social support as predictors of membership in two groups. This analysis was conducted only on mothers in order to include maternal separation anxiety as a predictor variable. Predictors were work environment, work changes events, family changes and strains, family index of cohesion, interrole conflict, maternal separation anxiety, social support index, perceived organizational support, perceived family support, perceived friend support, and coworker support. For one of the analyses the two groups were those who intend to stay on active duty versus those who do not, and for the other analysis the two groups were those with positive attitudes regarding deployment versus those with negative attitudes. Group membership for each dependent variable was determined based on variable scores being either below or above the median splits.

In the analysis using intent to stay on active duty as the dependent variable, 23 of the original 159 cases were dropped because their scores on the dependent variable fell on the median, and 5 were dropped due to missing data. Missing data appeared to be randomly distributed between groups and among predictor variables. Of the remaining 131 cases, 58 were in the "very unlikely to stay on active duty" group and 73 were in the "highly likely to stay on active duty group". The discriminant function analysis was calculated with a combined $X^2(11) =$

28.04, $p < .01$ (See Table 6). The discriminant function accounted for 100% of the between group variability.

The loading matrix of correlations between predictors and discriminant functions, indicates that for this sample the best predictors of group membership are maternal separation anxiety, family coherence, and interrole conflict. Work environment also tended to discriminate between the two groups. Those women who were more likely to stay on active duty felt more comfortable (i.e., experienced less anxiety) related to separation from their children ($M=20.11$) versus those women who were unlikely to stay on active duty ($M=17.10$); were more likely to perceive coherence between military and family life ($M=27.71$) than their counterparts ($M=24.14$); were less likely to experience interrole conflict ($M=29.36$) than their counterparts ($M=36.72$); and had a tendency to perceive a more positive (i.e., less stressful) work environment ($M=80.08$) than their counterparts ($M=70.72$).

Classification procedure results indicate that 73.4% of the sample of 131 mothers could be correctly classified into either "highly likely" or "very unlikely" to stay on active duty. Approximately the same percentage of women in Group 1 (unlikely to stay on active duty) (72.4%) were correctly classified as Group 2 (highly likely to stay on active duty) (74.0%).

In the analysis using attitude toward deployment as the dependent variable, 19 of the original 159 cases were dropped because their scores fell on the median, and 7 were dropped due to missing data which again appeared to be randomly distributed between groups and among predictor variables. Of the remaining 133 cases, 69 were in the "negative attitude toward deployment" group and 64 were in the "positive attitude toward deployment" group. The discriminant function analysis was calculated with a combined $X^2(11) = 30.13$, $p < .01$ (See Table

7). The discriminant function accounted for 100% of the between group variability.

The loading matrix of correlations between predictors and discriminant functions, indicates that for this sample the best predictors of group membership are coworker support, general social support, family coherence, work environment, and maternal separation anxiety. Those women who had more positive attitudes toward deployment perceived more coworker support ($M=11.65$), more general social support ($M=44.54$), greater coherence between family and military life ($M=28.73$), a more positive (i.e., less stressful) work environment ($M=82.94$), and felt more comfortable (i.e., less anxious) with being separated from their children ($M=20.28$) than those women with negative attitudes toward deployment (coworker support: $M=9.65$; social support: $M=39.44$; family coherence: $M=24.48$; work environment: $M=69.94$; and separation anxiety: $M=17.28$).

Classification procedure results indicate that 69.92% of the 133 cases could be correctly classified as those with a "negative attitude toward deployment" versus those with a "positive attitude toward deployment". Approximately the same percentage of Group 1 (negative attitude toward deployment) (71.0%) as Group 2 (positive attitude toward deployment) (68.8%) could be correctly classified.

Discussion

The results of this study indicate that for female soldiers in dual roles, work and family stress are related to and predictive of indices of well-being, satisfaction, intent to stay on active duty, and attitude toward deployment. These results are consistent with prior research indicating that working women in multiple roles may experience stress that negatively affects their job and life satisfaction, as well as their general well-being.^{26,27} Thus, like their civilian counterparts, the

stress and strain experienced by female soldiers in multiple roles (worker, wife, mother) relates to their well-being and satisfaction.

The first order correlations indicate that the majority of the family and work stress variables significantly relate to variables of satisfaction and well-being. The regression analyses for both the entire sample and the mothers only suggest that, for this sample, perceptions of stress in the work environment was the predictor variable that most consistently accounted for variance in the measures of well-being, satisfaction, and attitudes toward retention and deployment. Interestingly, this measure assessed the participants' specific, current work environment versus more global experiences of stress typical of military membership (i.e., frequent moves, perceived lack of control). This result is consistent with some prior research suggesting that day-to-day experiences and hassles are more predictive of adjustment than global, low incidence stressors.²⁸ Alternatively, global family stressors predicted well-being, satisfaction, and attitudes regarding deployment and retention. Thus, global (versus chronic) family stress, but immediate, chronic (versus global) work stress were most consistently related to the criteria variables of interest.

In general, the predictor variables accounted for a greater amount of variance in job and army life satisfaction, as well as individual well-being, than they did for intent to stay on active duty and attitude toward deployment. The reason for this is unclear. As no specific, well-validated measures of attitudes regarding retention and deployment were available in the literature, the method of measuring these attitudes in this study may have been flawed. Alternatively, it is possible that the stress variables used in this study affect attitudes regarding retention and deployment indirectly via their impact on job satisfaction, satisfaction with army

life, and well-being. Yet another possibility is that women in the military hold positive global opinions of their military experiences, and although they experience stress, this stress may not affect their intent to stay on active duty or their readiness to deploy. Further analysis is necessary to more clearly differentiate the reasons for the relatively smaller variance accounted for in these dependent variables.

In the mother only analysis, maternal anxiety regarding separation from their children accounted for significant variance in the mothers' sense of well-being and their attitudes toward deployment. Thus, it appears that mothers' anxiety about separation from their children affects their own sense of well-being and their perceived readiness to deploy, but does not affect to the same degree their job satisfaction and satisfaction with or intent to stay in the Army. Thus those mothers who worry about separation from their children, with this worry heightened by the prospect of deployment, tend to experience a decreased sense of well-being and have a less positive attitude toward deployment, yet this anxiety does not interfere with their job satisfaction or satisfaction with army life. This suggests that these mothers may experience some conflict between this maternal concern and the satisfaction they gain from employment in the military. In a study of female sailors, Kelley, Herzog-Simmer, and Harris also found that maternal separation anxiety related to parenting and family stress, particularly immediately prior to deployment.⁹ The prospect of deployment is likely to be particularly stressful for active duty mothers, as separation from their children exacerbates the role strain between work and family.

In terms of social support, the correlational analyses suggest that perceived social support across several domains relates to satisfaction and well-being. Thus, in general, those women who experience a high level of social support tend to be more satisfied in their jobs and with the

Army, to have a more positive sense of well-being, and to have a more positive attitude toward deployment, but not to have a higher likelihood of intending to stay on active duty. The results of the hierarchical regression analyses examining whether perceived organizational support moderates the effects of work stress or interrole conflict on various dependent variables generally did not suggest that a moderation effect was present. The only exception was that perceived organizational support moderated the relationship between interrole conflict and well-being. These results suggest that for those individuals experiencing high interrole conflict, a perception of high organizational support may moderate the negative impact of interrole conflict upon well-being. For job satisfaction, however, organizational support related to this aspect of functioning over and above the stress variables (work environment and interrole conflict), however it did not moderate the effect of the stress variables. Surprisingly, with respect to the intent to stay on active duty and attitude toward deployment, perceived organizational support did not account for variance in the variables over and above the stress variables (work environment and interrole conflict). It appears that perceived organizational support significantly affects women's immediate functioning (well-being and job satisfaction) over and above the experience of stress, but does not have a significant relationship to the projection of more distant functioning (intent to stay on active duty and readiness to deploy). Again, these results are consistent with the literature that suggests that social support may either have a direct impact on functioning or may moderate the impact of other variables such as stress,²⁹ depending on the aspect of functioning addressed.

Finally, the variables of stress and social support assessed in this study clearly discriminated between mothers with high intent to stay on active duty versus those with low

intent, as well as those with a strong positive attitude toward deployment versus those with a strong negative attitude. In particular, maternal separation anxiety, perception of family coherence, interrole conflict, and, to a lesser degree, work environment discriminated between the high/low retention groups. Those mothers who experience high anxiety regarding separation from their children, perceive family coherence with a military career as low, experience high interrole conflict, and perceive high work stress are more likely to intend to leave the military. With respect to attitudes toward retention, maternal separation anxiety, family coherence, and work environment again discriminated between low and high groups; in addition, perceived coworker support and perceived general social support also discriminated between the two groups. Therefore, those mothers who experience high anxiety related to separation from their children, perceive low coherence between family and military career, perceive high work stress, experience low coworker support, and experience low global social support tend to have more negative attitudes regarding deployment.

In sum, the results of this study were generally consistent with expectations based on previous literature of women in the workplace. This study attempted to expand this prior research by studying the experiences of women in the military who function in multiple roles. Although the Army is a unique setting for women to work in, the results of this study suggest that their job satisfaction and sense of well-being are related to stress and social support factors similar to those of their civilian counterparts. This study suggests that efforts to decrease potentially unnecessary work stress, global family stress, and interrole conflict might improve the overall functioning, retention, and readiness for deployment of military women in multiple roles. In addition, for female soldiers with children, efforts to decrease anxiety regarding

separation from their children and increasing perceived coherence between family needs and military lifestyle might prove beneficial to increasing retention and deployment readiness of these women. The relationship of social support to satisfaction, well-being, and retention/deployment readiness was less clear cut and needs further study. Future research should focus on determining more specifically how the experiences of women in the military compare with that of their civilian counterparts by utilizing a direct civilian comparison group, as well as directly comparing the experience of military women with that of military men with respect to family and work stress.

References

1. Hayghe, H. (1986). Rise in mother's labor force activity. Monthly Labor Review, 109, 43-45.
2. Pleck, J. H. (1985). Working wives, working husbands. Beverly Hills: Sage Publications.
3. Stewart, A. (1978). Role combination and psychological health in women. Paper presented at the Annual Conference of the Eastern Psychological Association.
4. Barnett, R., & Baruch, G. K. (1970). Multiple roles and well-being: A study of mothers of preschool age children. Wellesley, MA: Wellesley College Center for Research on Women.
5. Vergrugge, L. (1982). Women's social roles and health. In P. Berman & E. Ramey (Eds.), Women: A developmental perspective (pp. 49-78). Washington, DC: National Institutes of Health.
6. Bamundo, P. J., & Kopelman, R. E. (1980). Occupation, age, and urbanization as moderators of the relationship between job and life satisfaction. Journal of Vocational Behavior, 17, 106-123.
7. Barnett, R. C., Marshall, N. L., & Singer, J. D. (1988). Job experiences over time, multiple roles, and women's mental health: A longitudinal study. Journal of Personality and Social Psychology, 64, 634-644.
8. Emmons, C., Beirnat, M., Tiedje, L., Land, E., & Wortman, C. B. (1990). Stress, support, and coping among women professionals with preschool children. In J. Eckenrode & S. Gore (Eds.), Stress between work and family (pp. 61-93). New York: Plenum Press.

9. Kelly, M. L., Herzog-Simmer, P. A., & Harris, M. A. (1994). Effects of military-induced separation on the parenting stress and family functioning of deploying mothers. Military Psychology, 6, 125-138.
10. Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. Psychological Bulletin, 98, 310-357.
11. Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. Journal of Applied Psychology, 71, 500-507.
12. Perry-Jenkins, M., Seery, B., & Crouter, A. C. (1992). Linkages between women's provider-role attitudes, psychological well-being, and family relationships. Psychology of Women Quarterly, 16, 311-329.
13. MacEwen, K. E., & Barling, J. (1988). Interrole conflict, family support and marital adjustment of employed mothers: A short term, longitudinal study. Journal of Organizational Behavior, 9, 241-250.
14. Procidano, M. E., & Heller, K. (1983). Measures of perceived social support from friends and from family: Three validation studies. American Journal of Community Psychology, 11, 1-24.
15. Jensen, P., Martin, D., Watanabe, H. (1996). Children's response to parental separation during Operation Desert Storm. Journal of the American Academy of Child and Adolescent Psychiatry, 35, 433-441.
16. Breda, C., (1996). Deployment and family well being. Nashville, TN: Vanderbilt University.
17. Pan, H. S., Neidig, P. H., & O'Leary, K. D. (1994). Predicting mild and severe

husband-to-wife physical aggression. Journal of Consulting and Clinical Psychology, 62.

18. McCubbin, H., & Thompson, A. I. (1987). Family Assessment Inventories for Research and Practice. Madison, WI: University of Wisconsin.

19. Kopelman, R. E., Greenhaus, J. J., & Connolly, T. F. (1983). A model of work, family and interrole conflict: A construct validation study. Organizational Behavior and Human Performance, 32, 198-215.

20. Barling, J., & MacEwen, K. (1988). A multitrait-multimethod analysis of four maternal employment role experiences. Journal of Organizational Behavior, 9, 335-344.

21. Hock, E., McBride, S., & Gnezda, M. T. (1989). Maternal separation anxiety: Mother-infant separation from the maternal perspective. Child Development, 60, 793-802.

22. Shore, L. M., & Tetrick, L. E. (1991). A construct validity study of the Survey of Perceived Organizational Support. Journal of Applied Psychology, 76, 637-643.

23. Good, M. D., Smilkstein, G., Good, B. J., Shaffer, T., & Aarons, T. (1979). The family APGAR index: A study of construct validity. Journal of Family Practice, 8, 577-582.

24. Rosen, L. (1994). Personal Communication. Walter Reed Army Institute of Research.

25. Nietzel, M. T., Russell, R. L., Hemmings, K. A., Gretter, M. L. (1987). Clinical significance of psychotherapy for unipolar depression: A meta-analytic approach to social comparison. Journal of Consulting and Clinical Psychology, 55, 156-161.

26. Sorensen, G., & Mortimer, J. T. (1988). Implications of the dual roles of adult women for their health. In J. T. Mortimer & K. M. Borman (Eds.), Work Experiences and Psychological Development Through the Life Span (pp. 157-197). Boulder, CO: Westview

Press.

27. Wortman, C., Beirnat, M., & Lang, E. (1991). Coping with role overload. In M. Frankenhauser, U. Lundberg, & Chesney, M. (Eds.), Women, work, and health: Stress and opportunities (pp. 85-110). New York: Plenum Press.

28. Kessler, R. C., Price, R. H., & Wortman, C. B. (1985). Social factors in psychopathology: Stress, social support, and coping processes. Annual Review of Psychology, 36, 531-572.

29. Hobfoll, S. E., & Vaux, A. (1993). Social support: Social resources and social context. In L. Goldberger & S. Breznitz (Eds.), Handbook of stress: theoretical and clinical aspects (pp. 685-705). New York: The Free Press.

Table 1

Correlations between stress variables and satisfaction/well-being variables (N=196)

Satisfaction Variables	Stress Variables						
	WES ^a	WCES ^b	FCSS ^b	FIC ^a	IS ^b	MSAS ^{a,c}	
JSS ^a	.61**	-.42**	-.42**	.40**	-.43**	.27**	
ALS ^a	.53**	-.21**	-.28**	.42**	-.20**	.24**	
FMWB ^b	-.42**	.37**	.53**	-.55**	.50**	-.35**	
BDI ^b	-.38**	.37**	.49**	-.42**	.44**	-.42**	
ISAD ^a	.25**	-.09	-.25**	.20**	-.15*	.19*	
RD ^a	.36**	-.08	-.24**	.35**	-.22**	.34**	

Note: WES=Work Environment Survey; WCES=Work Change Events Survey; FCSS=Family Changes and Strains Scale; FIC=Family Index of Coherence; IS=Interrole Conflict Scale; MSAS=Maternal Separation Anxiety Subscale; JSS=Job Satisfaction Scale; ALS=Army Life Satisfaction; FMWB=Family Member Well Being; BDI=Beck Depression Inventory; ISAD=Intent to Stay on Active Duty; RD=Readiness to Deploy.

^aThese variables are scored such that a high score is in the direction of positive valence (i.e., low stress, high satisfaction).

^bThese variables are scored such that a low score is in the direction of positive valence (i.e., low stress, positive well-being).

^cCorrelations with this variable only included the mothers in the sample (N=159).

**p < .01 *p < .05

Table 2

Multiple regression analyses using stress variables as predictor variables and satisfaction/well-being variables as criteria variables (N=196)

Satisfaction Variables	R	R ²	Stress Variables								
			WES ^a		WCES ^b		FCSS ^b		FIC ^a		IS ^b
			B	B	B	B	B	B	B	B	B
JSS ^a	.70	.48**	.47**	-.12 ⁺	-.20**	-.03	-.15*				
ALS ^a	.58	.34**	.41**	.02	-.14*	.26**	-.12				
FMWB ^b	.69	.48**	-.14*	.01	.34**	-.29**	.17*				
BDI ^b	.62	.38**	-.15*	.08	.34**	-.12	.18*				
ISAD ^a	.33	.11**	.17*	.06	-.19*	.09	-.02				
RD ^a	.46	.21**	.27**	.18*	-.13 ⁺	.23**	-.05				

Note: WES=Work Environment Survey; WCES=Work Change Events Survey; FCSS=Family Changes and Strains Scale; FIC=Family Index of Coherence; IS=Interrole Conflict Scale; JSS=Job Satisfaction Scale; ALS=Army Life Satisfaction; FMWB=Family Member Well Being; BDI=Beck Depression Inventory; ISAD=Intent to Stay on Active Duty; RD=Readiness to Deploy.

^aThese variables are scored such that a high score is in the direction of positive valence (i.e., low stress, high satisfaction).

^bThese variables are scored such that a low score is in the direction of positive valence (i.e., low stress, positive well-being).

**p < .01 *p < .05 +p < .10

Table 3

Multiple regression analyses using stress variables as predictor variables and satisfaction/well-being variables as criteria variables using mothers only (N=159)

Satisfaction Variables	R	R ²	WES ^a B	Stress Variables				MSAS ^a B
				WCES ^b B	FCSS ^b B	FIC ^a B	IS ^b B	
JSS ^a	.71	.50**	.45**	-.13 ⁺	-.20**	-.04	-.17*	.09
ALS ^a	.61	.37**	.49**	.07	-.13 ⁺	.19*	-.06	.01
FMWB ^b	.70	.49**	-.12 ⁺	.04	.29**	-.28**	.14 ⁺	-.16*
BDI ^b	.64	.42**	-.20**	.04	.27**	-.07	.19*	-.20**
ISAD ^a	.35	.12**	.21*	.13	-.17*	.07	-.07	.02
RD ^a	.51	.26**	.19*	.18*	-.08	.21*	-.01	.28**

Note: WES=Work Environment Survey; WCES=Work Change Events Survey; FCSS=Family Changes and Strains Scale; FIC=Family Index of Coherence; IS=Interrole Conflict Scale; MSAS=Maternal Separation Anxiety Subscale; JSS=Job Satisfaction Scale; ALS=Army Life Satisfaction; FMWB=Family Member Well Being; BDI=Beck Depression Inventory; ISAD=Intent to Stay on Active Duty; RD=Readiness to Deploy.

^aThese variables are scored such that a high score is in the direction of positive valence (i.e., low stress, high satisfaction).

^bThese variables are scored such that a low score is in the direction of positive valence (i.e., low stress, positive well-being).

**p < .01 *p < .05 +p < .10

Table 4

Correlations between social support, stress variables and satisfaction variables (N=196)

Stress/Satisfaction Variables	Social Support Variables				
	SSI ^a	PSSFR ^a	PSSFA ^a	WAS ^a	SOPOS ^a
WES ^a	.37**	.21**	.14	.50**	.64**
WCES ^b	-.22**	-.10	.01	-.23**	-.43**
FCSS ^b	-.33**	-.14	-.25**	-.22**	-.33**
FIC ^a	.51**	.28**	.17*	.32**	.43**
IS ^b	-.29*	-.19**	-.02	-.28**	-.37**
MSAS ^{a,c}	.30**	.24**	.05	.29**	.26**
JSS ^a	.39**	.18*	.20**	.53**	-.57**
ALS ^a	.31**	-.25**	-.30**	.34**	.48**
FMWB ^b	-.55**	-.25**	-.27**	-.41**	-.49**
BDI ^b	-.43**	-.31**	-.28**	-.36**	-.46**
ISAD ^a	.17*	.14	.12	.14	.16*
RD ^a	.33**	.19**	.05	.31**	.30**

Note: SSI=Social Support Index; PSSFR=Perceived Social Support Friends; PSSFA=Perceived Social Support Family; WAS=Work Apgar Scale; SOPOS=Survey of Perceived Organizational Support; WES=Work Environment Survey; WCES=Work Change Events Survey; FCSS=Family Changes and Strains Scale; FIC=Family Index of Coherence; IS=Interrole Conflict Scale; MSAS=Maternal Separation Anxiety Subscale; JSS=Job Satisfaction Scale; ALS=Army Life Satisfaction; FMWB=Family Member Well Being; BDI=Beck Depression Inventory; ISAD=Intent to Stay on Active Duty; RD=Readiness to Deploy.

Table 4 (cont.)

^aThese variables are scored such that a high score is in the direction of positive valence (i.e., low stress, high satisfaction).

^bThese variables are scored such that a low score is in the direction of positive valence (i.e., low stress, positive well-being).

^cCorrelations with this variable only included the mothers in the sample (N=159).

**p < .01 *p < .05

Table 5

Heirarchical regression analyses with work stress or interrole conflict and perceived organizational support as predictor variables and satisfaction/well-being variables as criteria variables (N=196)

		Predictor Variables											
		Model 1: WES				Model 2: WES, SOPOS				Model 3: WES, SOPOS, WES X SOPOS			
Satisfaction	Variables	R ²	WES	IS B	R	R ²	WES B	SOPOS B	R	R ²	WES B	SOPOS B	WES X SOPOS B
JSS ^a		.61	.37**	.61**	.65	.43**	.42**	.30**	.66	.43**	.71**	.63**	-.57 ⁺
FMWB ^b		.42	.17**	-.42**	.50	.25**	-.19*	-.35**	.51	.28**	.05	-.06	-.50
ISAD ^a		.25	.06**	.25**	.25	.06	.25**	-.01	.27	.08**	-.10	-.42	.71
RD ^a		.37	.13**	.37**	.37	.14**	.30**	.11	.38	.15**	.08	-.15	.43
		Model 1: IS				Model 2: IS, SOPOS				Model 3: IS, SOPOS, IS X SOPOS			
Satisfaction	Variables	R ²	IS B	IS B	R	R ²	IS B	SOPOS B	R	R ²	IS B	SOPOS B	IS X SOPOS B
JSS ^a		.43	.19**	-.43**	.62	.39**	-.25**	.48**	.62	.39**	-.45**	.35**	.21
FMWB ^b		.50	.25**	.50**	.60	.36**	.37**	-.35**	.61	.38**	.01	-.59**	.38
ISAD ^a		.15	.02*	-.15*	.18	.04*	-.11	.12	.21	.04*	.20	.32 ⁺	-.31
RD ^a		.22	.05**	-.22**	.32	.10**	-.12 ⁺	.25**	.32	.11**	.08	.38**	-.20

Table 5 (Cont.)

Note: WES=Work Environment Survey; IS=Interrole Conflict Scale; SOPOS=Survey of Perceived Organizational Support; JSS=Job Satisfaction Scale; FMWB=Family Member Well Being; ISAD=Intent to Stay on Active Duty; RD=Readiness to Deploy.

^aThese variables are scored such that a high score is in the direction of positive valence (i.e., low stress, high satisfaction).

^bThese variables are scored such that a low score is in the direction of positive valence (i.e., low stress, positive well-being).

**p < .01 *p < .05 +p < .10

Table 6

Discriminant function analysis of intent to stay on active duty with stress and social support as predictor variables (N=131)

Predictor Variables	Correlations of predictor variables with discriminant function
MSAS ^a	.63
FIC ^a	.52
IS ^b	-.51
WES ^a	.48
FCSS ^b	-.45
SOPOS ^a	.31
SSI ^a	.28
PSSFA ^a	.18
WAS ^a	.11
PSSFR ^a	.10
WCES ^b	.01

Note: SSI=Social Support Index; PSSFR=Perceived Social Support Friends; PSSFA=Perceived Social Support Family; WAS=Work Apgar Scale; SOPOS=Survey of Perceived Organizational Support; WES=Work Environment Survey; WCES=Work Change Events Survey; FCSS=Family Changes and Strains Scale; FIC=Family Index of Coherence; IS=Interrole Conflict Scale; MSAS=Maternal Separation Anxiety Subscale.

^aThese variables are scored such that a high score is in the direction of positive valence (i.e., low stress, high social support).

^bThese variables are scored such that a low score is in the direction of positive valence (i.e., low stress, low social support).

Table 7

Discriminant function analysis of attitude toward deployment with stress and social support as predictor variables (N=133)

Predictor Variables	Correlations of predictor variables with discriminant function
WAS ^a	.66
SSI ^a	.65
FIC ^a	.64
WES ^a	.61
MSAS ^a	.59
PSSFR ^a	.37
FCSS ^b	-.34
IS ^b	-.31
SOPOS ^a	.30
PSSFA ^a	.27
WCES ^b	-.14

Note: SSI=Social Support Index; PSSFR=Perceived Social Support Friends; PSSFA=Perceived Social Support Family; WAS=Work Apgar Scale; SOPOS=Survey of Perceived Organizational Support; WES=Work Environment Survey; WCES=Work Change Events Survey; FCSS=Family Changes and Strains Scale; FIC=Family Index of Coherence; IS=Interrole Conflict Scale; MSAS=Maternal Separation Anxiety Subscale.

^aThese variables are scored such that a high score is in the direction of positive valence (i.e., low stress, high social support).

^bThese variables are scored such that a low score is in the direction of positive valence (i.e., low stress, low social support).



DEPARTMENT OF THE ARMY
US ARMY MEDICAL RESEARCH AND MATERIEL COMMAND
504 SCOTT STREET
FORT DETRICK, MARYLAND 21702-5012

REPLY TO
ATTENTION OF:

MCMR-RMI-S (70-1y)

11 Mar 98

MEMORANDUM FOR Administrator, Defense Technical Information
Center, ATTN: DTIC-OCF, Fort Belvoir,
VA 22060-6218

SUBJECT: Request Change in Distribution Statement

1. The U.S. Army Medical Research and Materiel Command has reexamined the need for the limitation assigned to technical reports written for the following contracts. Request the limited distribution statement for these contracts be changed to "Approved for public release; distribution unlimited." These reports should be released to the National Technical Information Service.

<u>Contract Number</u>	<u>Accession Document Number</u>
DAMD17-94-J-4256	ADB221974
DAMD17-94-J-4325	ADB225249
95MM5533	ADB225872

2. Point of contact for this request is Ms. Betty Nelson at DSN 343-7328 or email: betty_nelson@ftdetrck-ccmail.army.mil.

FOR THE COMMANDER:

Phyllis Rinehart
PHYLLIS M. RINEHART
Deputy Chief of Staff for
Information Management

*Comp
1/24/2000*