

WOMEN IN THE U.S. ARMY

An Annotated Bibliography



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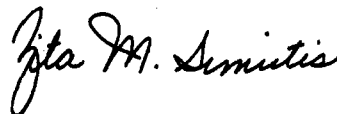
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FOREWORD

Beginning with the change to an all-volunteer military, the number and roles of women in the Armed Forces have increased dramatically. As the largest branch of the military, the Army has increased the number of women from about 2% in 1973 to about 15% today. Women now serve in almost all Army jobs and Military Occupational Specialties (MOS); however, the Army continues to exclude women from serving in jobs or MOS involved in direct ground combat. As the changes in gender representation have occurred, there have been a number of research issues that have emerged, related primarily to personnel utilization and training. As the Army's lead personnel and training R&D laboratory, the U.S. Army Research Institute for the Behavioral and Social Sciences has been involved in much of this research.

This Special Report summarizes ARI's research on gender issues and provides an annotated bibliography of other research and studies that have been conducted over the last 5 to 10 years on very important issues centered around women in the military. For the Army, the issues and controversies over effective utilization and training of an increasingly diverse workforce are likely to continue. This Special Report provides an historical perspective and background on research related to these issues.



ZITA M. SIMUTIS
Acting Director

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Women in the U.S. Army: An Annotated Bibliography

Beverly C. Harris and Zita M. Simutis
U.S. Army Research Institute for the Behavioral and Social Sciences

Melissa Meyer Gantz
George Mason University

A change in and expansion of women's roles in the U.S. Army began with the end of the draft and the introduction of the All-Volunteer Army in 1973. As the numbers of women increased from approximately 2% to almost 15% today, women have sought, and



the Army has required women to fill, varying jobs over an ever-widening spectrum of occupational specialties. This has resulted in significant changes in policy and the job assignments and roles of women in the Army. These changes have brought with them concerns, discussions, and conflicts about the overall integration and utilization of women. The U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) is the Army's lead laboratory for personnel and training research, studies, and analyses. In this capacity, ARI has conducted a number of projects over the years addressing various issues related to women in the Army, specifically, the integration and utilization of women, gender integration of basic training, and attitudes and

opinions of soldiers and leaders related to women in combat and other work-related issues. These projects are summarized below. In addition, key non-ARI studies on gender-integrated training are summarized below. The appendices provide an annotated bibliography of additional research and studies that have been done primarily during the 1990s on issues related to women in the military.

Integration and Utilization of Women in the Army

Women in Units

Beginning in the mid-70s, projects on the utilization of women in combat support (CS) and combat service support (CSS) military occupational specialties (MOS) were conducted in response to senior Army leader questions posed to ARI. The first project addressed the question, "What percentage of women will it take to degrade unit performance?" In 1976, ARI conducted research that tested 40 companies using the Army Training and Evaluation Program (ARTEP) to measure company performance over a 3-day test period. This project was entitled Women Content in Units Force Development Test (MAX WAC). The results indicated that unit performance was not degraded by the participation of women and that women did not perform significantly

worse than men. Leadership, training, morale, and personnel turbulence affected unit performance to a much greater extent than the percentage of women in the unit.

ARI conducted a second project [Women Content in the Army (REF-WAC)] to examine the effects of having women in CS and CSS units during a longer training exercise, REFORGER 77 (Johnson, Cory, Day, & Oliver, 1978). As in the first project, the CS and CSS units included maintenance, medical, military police, signal, supply, and transportation. The findings replicated those from MAX WAC that the percentage of women in a unit had little, if any, negative effect on unit performance in the REFORGER 77 scenario. Other factors, such as leadership and policies, bias against women, especially at the first-line supervisor level, and morale were again found to have a greater impact on mission accomplishment than the presence of women in the unit.



Gender Integration of Basic Training

History of Gender Integration in Basic Combat Training

In 1976, ARI was first tasked to address an issue related to the gender integration of Basic Combat Training (BCT) for CS and CSS recruits.¹ As a part of a larger study to determine the feasibility of combining both men and women in BCT using identical instruction and standards, ARI conducted an attitudinal survey of BCT. The findings from the attitude survey indicated that all trainee attitudes and their motivation toward BCT were positive both at the beginning and at the end of training. Although BCT was found to increase trainees' confidence for succeeding in the Army, the survey focused primarily on attitudes related to physical conditioning, not on attitudes and perceptions of other aspects of the training process. In terms of physical conditioning, female trainees judged themselves to be in poor physical condition when they entered BCT; male trainees, on the other hand, judged themselves to be in good physical condition when they entered BCT. The drill sergeants in this study thought that male trainees were in better physical condition, performed better under mental stress, and performed better in group activities than female trainees. Based on the results of performance data from the larger study, in conjunction with ARI's attitudinal survey, it was concluded that the best effect for both men and women would be achieved if BCT were gender integrated at a lower level. The recommended level was to integrate at the company level, with same-gender platoons; rather than the way it was being done with gender integration only at the battalion level (Earl, 1978).

¹ BCT for direct combat arms (CA) MOS recruits was, and continues to be, conducted as the first phase of One Station Unit Training (OSUT) in all-male units. CA branches include Infantry, Armor, Field Artillery, Air Defense Artillery, Aviation, Special Forces, and Corps of Engineers; CS branches include Signal, Military Police, Military Intelligence, and Chemical; and CSS branches include Adjutant General, Finance, Transportation, Ordnance, and Quartermaster. CA, CS, and CSS make up approximately 30% of the Army, respectively. Special branches (Medical Corps, Judge Advocate General Corps, Chaplain Corps, etc.) make up the remaining 10% of the Army.

In 1982, Training and Doctrine Command (TRADOC) discontinued gender-integrated BCT. Gender-integrated training during Advanced Individual Training (AIT) for CS and CSS trainees continued and gender-integrated One Station Unit Training (OSUT) for Military Police also continued at Fort McClellan. The issue of integrating BCT for CS and CSS trainees reappeared in 1991 when the Commander, TRADOC, requested that Fort McClellan conduct another study of three battalions. One battalion was to be integrated to the squad level and two battalions to the platoon level. After gathering data, Fort McClellan recommended that the Army "train as we fight" by implementing gender integration in BCT at the lowest possible level (cited in Mottern, Foster, Brady, & Marshall-Mies, 1997).



In 1993, Fort Jackson performed its own pilot test using one battalion gender integrated to the squad level. Comparing single-gender units from another battalion with gender-integrated units, they determined that males and females performed the same regardless of the gender mix in the unit. They recommended to remain with their current system and not integrate units at lower levels (cited in Mottern et al., 1997).

To address these conflicting views and findings, the Army Chief of Staff requested that ARI conduct a more extensive project on the issue of gender integrating BCT. This more extensive project was to focus on performance during training and on the attitudes and opinions of both trainees and drill sergeants. ARI performed a series of three projects between 1993 and 1995 with CS and CSS training units, described below.

ARI Studies on the Gender Integration of Basic Combat Training

ARI's 1993 study was conducted at Fort Jackson, South Carolina, one of the Army's largest basic training sites for CS and CSS soldiers. The focus of this first study was to assess individual performance, the extent of soldierization, soldier attitudes, and drill sergeant attitudes toward men and women in the Army and toward gender-integrated training (Army Personnel Survey Office, 1994). An experimental design was used and two battalions were selected to be part of the project. Each battalion was composed of one all-male company, one all-female company, one company gender integrated at the squad level with 50% males and 50% females, and two companies gender integrated at the squad level with 75% males and 25% females. Performance data were compiled as part of the regular training program and scientists observed training performance at random times throughout the training period. Soldiers were given a pre- and post-training questionnaire and drill sergeants were given a post-training questionnaire. Focus group interviews were conducted with single-gender groups of trainees, as well as with drill sergeants from each company.

The results indicated that training performance decreased slightly for males in gender-integrated units compared to males trained in all-male units. By contrast, females

trained in gender-integrated units showed a dramatic improvement in training performance when compared to females trained in all-female units. Pride in and commitment to the Army was high for all soldiers between the pre- and post-tests. Platoon morale was highest for all-male units and lowest for all-female units. Similarly, cohesion was highest for all-male units and lowest for all-female units. In gender-integrated units, males and females reported more similar, positive perceptions of soldierization than they did when in single-gender units. Based on the findings of this study, the Army Chief of Staff directed that BCT for CS and CSS MOS be gender integrated at the squad level (Mottern et al, 1997); CA training remained unchanged.

The second study was conducted by ARI in the summer of 1994 with a basic training battalion at Fort Leonard Wood, Missouri (Mottern & Simutis, 1994). The purpose of this second study was to determine if the results of gender-integrated training from the first study would be replicated. One experimental battalion was constructed and all four companies were gender integrated at the squad level; 75% male and 25% female. Data were collected in the same manner as in the first study with soldier and drill sergeants participating in questionnaires and focus group interviews. The findings



generally confirmed those from the first 1993 study and indicated that the gender-integrated units were even more successful. Males trained in gender-integrated units in this second study were more similar to the males trained in all-male units in the first study with respect to levels of morale, teamwork and cohesion. Trainees in the gender-integrated units in the second study were also more positive about their training experiences than the trainees in either gender-

integrated units or in single-gender units in the first study. The Army Chief of Staff and the Secretary of the Army concluded that gender-integrated BCT for CS and CSS trainees was working and should continue. The Secretary of Defense approved these plans on 28 July 1994 (Mottern et al, 1997).

The most recent ARI study was conducted in 1995 at both Fort Jackson and Fort Leonard Wood. The Gender-Integrated Training Steering Committee that was established by TRADOC requested this study. ARI was asked to examine the training policies and the conduct of BCT to determine if gender-integrated basic training continued to be effective for both males and females (Mottern et al, 1997). The study focused on six issues: (1) entry-level physical condition, (2) how gender-integrated training was affecting performance and attitudes, (3) how gender-integrated training was affecting the soldierization process, (4) the attitudes of drill sergeants toward gender-integrated training, (5) how prepared drill sergeants were to train in a gender-integrated environment, and (6) attrition patterns of trainees. As in the first two projects, pre- and post-questionnaires were developed and administered to the trainees and drill sergeants. In addition, the trainees who left before they completed basic training were given an attrition questionnaire. Focus group interviews were also conducted with trainees and drill sergeants in each company. Results indicated that the physical condition of all soldiers entering BCT was very poor; this was especially true for female soldiers.

Females in gender-integrated training units improved their performance on all measures of physical fitness; men in gender-integrated training units improved on most measures of physical fitness. The females in gender-integrated training continued to report much higher levels of soldierization than the females in all-female companies had reported in the 1993 study. Males in gender-integrated units reported the same level of soldierization as males had reported when in all-male units in 1993. Those who left BCT before completing their training were found to be less committed to the Army and less confident in their abilities to perform in BCT even before BCT began. Gender integration during training did not affect attrition rates. Drill sergeants reported that the Drill Sergeant Course did not adequately prepare them to conduct BCT in a gender-integrated environment. Findings from the drill sergeants' data were provided to Fort Jackson for use in future drill sergeant training.

Other Studies on Gender-Integrated Basic Training

U.S. General Accounting Office. In 1996, the General Accounting Office (GAO) published a report titled "Basic Training: Services are Using a Variety of Approaches to Gender Integration." The report detailed the different gender integration practices of the U.S. Army, Navy, Air Force, and Marine Corps. The services varied with regard to the degree and level of integration between men and women in their training programs. The Marine Corps did not conduct gender-integrated basic training. In the Army, Navy, and Air Force, men and women in BCT followed the same program of instruction with differences in medical examinations, hygiene classes, and physical fitness standards. In 1995, the Army trained all women and 49% of the men (CS and CSS specialties) in gender-integrated units made up of between 20% and 50% women. The Navy also trained all of its women in gender-integrated units, but only 25% of its men. The proportion of Navy women in the training units was kept at 50% because the Navy was concerned that women not feel isolated by being one of only a few in a group. The Air Force's training program consisted of single-gender flights paired with a "brother" or "sister" flight. The flights could be in the same area for certain aspects of training, but they did not mix within a flight. The only place men and women trained together was in the physical conditioning program. Although they reported that the Army spent \$67,000 to modify barracks at their gender-integrated training installations, overall GAO indicated that the costs resulting from gender-integrated training had been relatively low. According to GAO, no staffing or curriculum changes needed to be made. The report reiterated that gender integration improves the performance of women and does not degrade the performance of men (GAO, 1996).

Federal Advisory Committee on Gender-Integrated Training and Related Issues. In 1997, Secretary of Defense, William S. Cohen appointed the Federal Advisory Committee on Gender-Integrated Training and Related Issues to assess the current training programs of the Armed Services. Former Senator Nancy Kassebaum Baker chaired the committee. After receiving briefings, traveling to military sites, and engaging in discussion groups with recruits, instructors, and other military personnel, the committee reported its conclusions about the training programs of the U.S. Army in December 1997 (Federal Advisory Committee, 1997). The first conclusion was that new

recruits were arriving at BCT with less discipline, respect, and military bearing, as well as fewer technical skills than previously. The committee recommended that the Army provide separate barracks for male and female recruits; integrated housing was felt to contribute to too many disciplinary problems and distractions from the primary training objectives. In addition, the committee observed that gender-integrated training in BCT resulted in less discipline, less unit cohesion, and more distractions from training. Their recommendation was to segregate the sexes during BCT at the platoon level. Soldiers would be gender integrated starting at the company level. Other areas in which the committee said there was room for improvement were the basic training requirements and sexual harassment policies.

The Army did not agree with the committee's recommendations concerning segregating basic training below company level. They said that segregating CS and CSS males and females in basic training would fail to prepare them for the "real world" of the military. The Defense Advisory Committee on Women in the Services (DACOWITS) agreed, saying that more, not less, gender-integrated training was needed. DACOWITS asserted that if females were separated from males during basic training, they would not get the level of training necessary to succeed in an environment where they would eventually be working with a majority of males (Maxwell, 1998). To the leaders of the U.S. Army, the Kassebaum-Baker recommendation to segregate males and females at the platoon level was viewed as a step backwards. However, the Army did accept a number of the other recommendations from the committee and has implemented them including, revising and enforcing standards, redesigning barracks, etc.

House Armed Services Committee. The House Armed Services Committee (HASC) formed a Commission on Military Training and Gender-Related Issues in March 1999. Unlike the Kassebaum-Baker Commission, their findings recommended that the military continue gender-integrated BCT as well as mixed-gender barracks. The HASC commission concluded that the military's training programs met the requirement for mission readiness (Scarborough, 1999).

Attitudes and Opinions About Women in the Army

The issue of women in combat has garnered a great deal of attention and controversy since passage of the National Defense Authorization Act in December of 1991. This act repealed the legal restrictions against assigning women in the Armed Forces to combat aircraft, created the Presidential Commission on the Assignment of Women in the Armed Forces, and gave the Commission the task of assessing the potential impact of assigning women to combat specialties and branches. In 1993, policies were changed to allow women aviators to fly aircraft engaged in combat missions and to allow women to serve on combatant ships (excluding submarines and amphibious vessels). In 1994, the Department of Defense Risk Rules were revised opening all positions to women who qualify, except positions in units below brigade whose primary mission is direct ground combat or positions that are routinely co-located with direct ground combat units. This last exception continues to affect Army women to a larger extent than women in the other services.

As mentioned earlier in the Introduction, women have moved into a much larger number of MOS and branches over the last 10 years as a result of these changes. Beginning in 1991, the Sample Survey of Military Personnel (SSMP)² has tracked the attitudes and opinions of soldiers and leaders over this 10-year time period and has routinely reported on the changes and trends related to the integration of women and, specifically, the women in combat issue (ARI Survey Report 2000-08, 1999). Findings indicate that, overall, attitudes have become more positive over the last 10 years. This is especially true for males in CS and CSS specialties and for male senior-level officers and NCOs. As an example, current findings indicate that most males do not think it would be more difficult to take orders from someone of the opposite sex; they think the relationships between men and women in their units are very good to excellent; and over half of men think women should be assigned to any specialty for which they can pass a test to qualify. Over 70% of men reported that having both males and females in the unit would have no impact or a positive impact on unit cohesion and work atmosphere. Most males disagree that women don't have the physical strength, stamina, or mental toughness to be effective in combat situations. And, only about 14% of all soldiers say that their career plans would change if women were allowed to be assigned in direct combat positions.



In conjunction with attitude and opinion surveys, ARI has conducted numerous focus group and individual interviews over the last 10 years. These interviews echo the survey data that soldiers are proud to be in the Army, they think that the Army provides opportunity and teaches them skills not only to do their Army jobs, but to improve their chances of getting a good civilian job, and most think the Army is doing a good job of providing an equal opportunity environment – better than most civilian organizations. Overall, the genders think that they are fairly treated with respect to such things as assignments, promotions, awards, etc., and they are strongly committed to the Army as an organization. When making a decision to stay in or to leave the Army, both men and women consider a very similar set of factors, namely: the likelihood of promotion, their performance ratings, experiences of their peers, job satisfaction, job and family stress, retirement and medical benefits, family issues, and civilian job opportunities. Women in the Army reported additional factors that influenced their career decisions primarily related to their perception that they are more limited in terms of job and command opportunities. Women reported being limited both formally, because of the direct combat policies, and informally, because they perceive that some commanders continue to exclude them from certain career-enhancing positions because of their negative attitudes toward women in general. These limitations not only affected their promotion potential, but also rob them



² The Sample Survey of Military Personnel (SSMP) is a biannual survey administered by the Army Personnel Survey Office, U.S. Army Research Institute. It covers a wide range of topics and is sent to a random sample of 10% of the Army officer population and 3%-5% of the enlisted population.

of valuable experiences that they need to effectively perform their assignments as they progress in their careers. For both men and women, the decision to leave the Army was rarely found to be based on only one issue; it seemed to be based on the cumulative weight of multiple factors, or the addition of one more problem that tipped the balance toward leaving their very demanding jobs (i.e., the proverbial "straw that broke the camel's back").

Since 1991, the Army has been subjected to severe cuts in personnel, in structure, and in resources. Concurrently, as mentioned earlier, the Army has been deployed for more missions in more locations than ever before. ARI's research has shown that the overall Army environment has become more stressful over the last several years, morale has declined, and men and women agree that the most serious unit problems they face on a daily basis are related to too few people to do the work; leadership problems (micromanagement and a lack of positive leadership and concern for troops); favoritism; and soldiers generally trying to get out of work. In units with positive leaders who take charge and demonstrate Army values and the behaviors they expect of others, soldiers work well together and gender and racial issues are minimal. In units with poor leaders, any interpersonal conflicts or group differences such as gender, race or ethnicity, are exacerbated. The majority of soldiers and leaders just want to do a good job and be recognized and respected for their service and contribution to the mission. This was true regardless of rank, race, gender, ethnicity, MOS, or duty station.

Conclusions

As an employer, the Army has historically provided the young people of our country with challenge, opportunity, and a chance to have a better life. Since the beginning of the All-Volunteer Force in the early '70s, these opportunities have been provided to the entire population of the U.S. regardless of race, ethnicity, or gender. The numbers of women have increased more than 7 fold over the 30-year period. Women have sought, and the Army has required women to fill, varying jobs over an ever-widening spectrum of occupational specialties. Research indicates that unit effectiveness is independent of the mix of soldiers in the unit; effectiveness comes from excellent training and excellent leadership. From the historic research findings and insights gained from numerous interviews with soldiers and leaders from every level of the Army, the most important issues facing the Army post-downsizing center around effective leadership at all levels; effective training; facilitating teamwork, mutual respect, and Army values; and revitalizing esprit de corps. With the mix of forces required to perform the Army's varied missions (Active Component, Reserve Component, Department of the Army Civilians, contractors, multinational units, etc.), maximizing all available human potential would seem to be the key to readiness and to continued mission success.

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APPENDICES

Appendix A

Demographics Articles Related to Women in the Army

1. Manning, L. and Griffith, J.E. (1998). Women in the Military: Where They Stand. A Women in the Military Project report of the Women's Research and Education Institute, Washington, DC.

This report tracks the history of women in the military and the legal and policy changes since 1948. It provides demographic tables for the total military and for each of the services through Fiscal Year (FY) 1998 and an insert updating the data through FY 1999. It provides a series of graphs tracking the increased participation of women in each of the services (1972-1997) and the occupational profiles of DoD officers and enlisted personnel. It also provides an overview of the assignment policies for each service and a brief discussion of other countries' policies regarding women in the Armed Forces. As of FY 1999, breakdowns indicate that the Marine Corps has the fewest women (5.7% of the enlisted force and 4.8% of the officer corps); the Coast Guard has 10% and 9.3%, respectively; the Navy has 12.8% and 14.1%, respectively; the Army has 15.1% and 13.2%, respectively; and the Air Force has the largest percentage of women (18.4% and 16.7%, respectively).

2. Yore, M. M. and Amoroso, P. J. (1997). The Demographic Profile of U.S. Army Active Duty Women 1980-1994 Using the Total Army Injury and Health Outcomes Database (Technical Report). Natick, MA: U.S. Army Research Institute of Environmental Medicine. (AD A329 338)

This report provides overall demographic information concerning women in the military. The results are as follows. The proportion of women in the Army has increased from 9% in 1980 to 13% in 1994. The number of black women and women of other races increased from 1980-1994, while the number of white women decreased. The number of married men and women has increased. The percentage of women with children has increased. From 1980 to 1983, more women than men had a high school diploma as their highest level of education. The military occupational specialties are different for men and women. The majority of women still have "traditional" occupations. The proportion of male and female officers is similar now. Approximately 16% of women and 16% of men were officers in 1994, in comparison to 11% of women and 13% of men in 1980. Men remained in the service for longer time periods than women.

Appendix B

History Articles

3. Devilbiss, M. C. (1990). Women and Military Service. A History, Analysis, and Overview of Key Issues. Maxwell Air Force Base, AL: Air University Press.

The author of this book examines the broad topic of women and the military. She organizes the book by breaking up the subject into three main areas: history, analysis of instruments and patterns of change, and key issues. The questions asked by the author in each of these sections respectively are: (1) What has been the history of policy development on this issue? (2) Why and how have policy changes occurred? and, (3) What concerns and issues remain on the policy agenda?

The author hypothesizes that women have been integrated into the military through an evolutionary process and also states that change concerning women in the military has occurred through both external and internal forces. The author thinks that the current policy has issues that are unresolved and underlying. The author suggests that a close examination and analysis are the only ways to realistically change these visible and underlying problems.

4. Holm, J. (1992). Women in the Military. An Unfinished Revolution. (Revised edition). Novato, CA: Presidio Press.

In this book, Holm provides detailed explanations of the history of women in the military covering the revolution through World War II, women's integration through Vietnam, and the seventies and eighties. Women's early years and the story of "Molly Pitcher" are described in detail. Holm tells about how the WACs and the WAVES developed and frequently inserts women's personal stories to verify the accounts. This book provides an in-depth look at military women's journey through history.

5. Segal, M. W. (1993). Women in the Armed Forces. In R. H. Howes & M. R. Stevenson (Eds.), Women and the Use of Military Force. (pp. 81-93). Boulder & London: Lynne Rienner Publishers.

The author provides a summary of highlights on women's history in the military and the recent changes that have taken place. Women have always been a part of the military, particularly when there were shortages of men. In World War I, the positions that women held were temporary. During World War II, the Women's corps was established. A pattern evolved where women were permitted to be part of the Army and to hold more dangerous positions when a war was being fought but, when the war ended, women were forced back into the more traditional roles. When

the chapter was written, women were not allowed in direct combat roles, but they were often exposed to danger and loss of life anyway.

In 1970, 43,000 women participated in the military. Nine years later there were 173,000. In 1989, the number had grown to 225,859 women. Women participated in Operation Just Cause in Panama and Operations Desert Shield and Desert Storm in the early 90's. These experiences showed that excluding women from direct combat assignments did not fully protect women, because thirteen women died and two women were prisoners of war. Changes have been taking place in the military such as an increase in technology sophistication, and gender stereotypes have started to diminish. Women's family roles have shifted due to their greater involvement in the military. However, the combat exclusion policy continues and it is still unknown what advocates will be able to do to change current policies restricting women from full integration into all military occupational specialties.

6. Stanley, S. C. (1993). Women in the Military. New York, NY: Julian Messner.

This book provides an excellent history of women in the military. Stanley leads the reader through women's early involvement in the military, relating stories of people like "Molly Pitcher". She proceeds through the Civil War, World War I, World War II, the Cold War Era, and many important events such as the end of the draft. Stanley discusses equal opportunities for women, opening new positions to women, and changing attitudes toward women. She provides a clear and thorough description of things such as the different branches, the ways to enter the military, basic training, different ranks, and time commitments. Throughout the book, Stanley presents women telling their stories from their personal experiences in the military.

Appendix C

Health and Performance Articles

7. Cline, A. D., Patton, J. F., Tharion, W. J., Strowman, S. R., Champagne, C. M., Arsenault, J., Reynolds, K. L., Warber, J. P., Baker-Fulco, C., Rood, J., Tulley, R. T., and Lieberman, H. R. (1998). Assessment of the Relationship Between Iron Status, Dietary Intake, Performance, and Mood State of Female Army Officers in a Basic Training Population (Technical Report, Contract Number W4168021). Natick, MA: U.S. Army Research Institute of Environmental Medicine. (AD A351 973)

The intent of this report is to detail the relationship between iron status, nutrition, physical and cognitive performance, and mood state of women. The subjects were women volunteers who were participating in an 8-week officer basic training course. The women were evaluated when they entered active duty, and researchers found that 33% were iron deficient based on serum ferritin levels and 7% were anemic based on low hemoglobin levels. Those numbers rose by the completion of basic training. The iron deficiency was found in 64% of the women, and anemia was found in 13% of them. However, the iron deficiency and anemia did not affect the women's performance as measured by maximal treadmill testing and the Army Physical Fitness Test. Iron status and mood were not related. The authors pointed out that the performance measures were not affected by acute iron deficiency or anemia, but they say the impact of chronic iron deficiency needs to be assessed longitudinally.

8. Costello, R. B. (1998). Nutrient Requirements, Body Composition, and Health of Military Women (Final Report). Washington, DC: National Academy of Sciences-National Research Council. (AD A349 566)

Body composition and fitness standards and their implications for military women's readiness are the focus of this report. In 1992, the U.S. Army asked the Committee on Military Nutrition Research (CMNR) of the Institute of Medicine to evaluate the body composition, fitness and appearance standards required for recruitment and retention in the military and to consider whether these standards support the health and performance of military personnel.

Findings revealed that 10% of active-duty women under age 20 and over 25 were overweight and 6% of women age 20-25 were also overweight. 14.5% of women under 20, 11% age 20-25, 10% age 26-34, and 5% age 35 and older were underweight. With regard to the Army Physical Fitness Test, evidence showed that the "performance of personnel on military fitness tests does not correlate well with their performance on task-specific performance tests or tests of the strength required for MOSs that demand heavy and moderately heavy lifting and carrying

capabilities.” Performance on strength tests was found to be correlated with higher body weight. Finally, one problem discovered was that the food available from the dining hall or operational rations made it difficult for women to get the recommended levels of calcium, iron, and folic acid in order to balance the energy they exert. Recommendations are given in the conclusion of the report.

9. Gabbay, F. H., Ursano, R. J., Norwood, A. E., Fullerton, C. S., Sutton, L. K., Duncan, C. C., and Jackson, S. A. (1996). Sex Differences, Stress, and Military Readiness (Final Report). Bethesda, MD: Uniformed Services University of the Health Sciences. (AD A321 693)

Many different authors contributed individual reports on a variety of topics related to women in the Army to compose this work. Evelyn P. Foote, BG, USA (Ret) introduces the work with a history of her military career. Other topics include sex differences in cognitive function, attitudes and opinions, cultural stressors, anxiety, post-traumatic stress disorder, alcohol and drug use, response to gruesomeness, and depression and suicide as it relates to men and women.

Results indicated that men were found to be better on certain spatial tasks, mathematical reasoning, navigating a route, and “target-directed” motor skills. Women excelled at quickly identifying matching items, verbal fluency, arithmetic calculation, and certain precise manual tasks. General intelligence is similar for both sexes. On the topic of dual military families, female soldiers were found to be much more likely than male soldiers to marry someone in the military.

10. Knapik, J., Banderet, L., Bahrke, M., O'Connor, J., Jones, B., and Vogel, J. (1993). Army Physical Fitness Test (APFT): Normative Data on 6022 Soldiers (USARIEM-T97-7 Technical Report). Natick, MA: U.S. Army Research Institute of Environmental Medicine. (AD A274 547)

The purpose of this study was to develop normative values for Army Physical Fitness Test (APFT) events and to demonstrate the use of these normative values. A total of 5346 male and 676 female soldiers from 14 Army installations in the United States participated in the study. The soldiers completed as many sit-ups and push-ups as possible in two minutes, as well as performing a two-mile run against the clock. The data were separated into the age and gender categories on which the current APFT standards are based. The mean score for sit-ups was very similar for men and women; men averaged 58.7, and women averaged 58.9. The times for the two-mile run were also similar; men needed 15.1 minutes, and women needed 18.3. The mean score for men and women in the push-up category was significantly different; men averaged 50.4, while women averaged 28.3.

11. Sharp, M. A. (1993). Physical Fitness, Physical Training and Occupational Performance of Men and Women in the U.S. Army. A Review of Literature (USARIEM Technical Note 93-7). Natick, MA: U.S. Army Research Institute of Environmental Medicine. (AD A266 297)

This report is a review of the research conducted to compare the physical fitness and performance of men and women in the Army. More positions are being opened to women in combat related fields that may have high physical demands associated with their duties. A number of these jobs require the soldier to lift, carry, push or pull loads in excess of 40 kg. In addition, regardless of the tasks specific to the occupation, each soldier must perform common soldiering tasks (setting up tents, moving equipment, etc.). Women need to be just as capable as men with regard to physical fitness and performance.

Body composition is known to have a major impact on performance. The average female soldier currently weighs 20% less than the average male soldier, has 10% more body fat and 30% less muscle mass. Body fat is often negatively correlated with high aerobic capacity; soldiers with more body fat have slower run times. Therefore, women would be expected to be slower at running and have lower strength levels. However, the findings in the strength area indicated that women seem to be able to perform better when doing familiar tasks compared to unfamiliar tasks. When exercising at a given percentage of maximal strength, females demonstrated muscular endurance equal to that of their male counterparts. When lifting repetitively with an absolute external load, males demonstrated greater muscular endurance because their absolute strength was greater.

Weight training is a good way to improve muscle strength and it can also be used to improve muscular endurance. The lower the initial state of training, the more potential there is for improvement. Both men and women experienced an increase in muscle mass, a decrease in body fat and had no resultant change in body mass with a weight-training program. Strength and aerobic training were found to enable women to adequately perform many physically demanding jobs. If the intensity of the task does not require a maximal effort, or if the woman is allowed to self-pace, she can perform many tasks and meet the male standard of performance. The author concludes with several simple recommendations that would improve women's physical performance and stamina.

12. United States General Accounting Office (1998). Gender Issues. Improved Guidance and Oversight Are Needed to Ensure Validity and Equity of Fitness Standards (GAO/NSIAD-99-9). Washington, DC: Gebicke, M. E.

This report reviews the physical fitness standards and body fat standards in order to assess if differences exist among the services, if the services have justification for adjusting the standards for gender and age, and if the Department of Defense exerts enough oversight of the fitness programs. Significant differences existed among the

services in the tests and standards being used to determine physical fitness. The reasons given for the differences were that there was not enough DoD guidance and there was confusion over the program's objectives. There appeared to be no scientific basis for the adjustment of standards for age and gender. Each service adjusted the standards differently and inconsistently. Actual performance typically was not used as a basis, but rather estimation or inference from male data or command judgment was used. Also DoD did not adequately monitor the compliance of services with the policies. The statistics on the physical fitness program of each service lack standardization. Recommendations included clearly stating the objective of physical fitness tests, establishing clear policies for age and gender adjustments for all services, establishing a DoD wide approach which is based on scientific research to estimate body fat, require the services to maintain program statistics, and provide the information in their annual reports.

13. Ursano, R. J., Norwood, A. E., Fullerton, C. S., and Sutton, L. K. (1996). Trauma, Stress & Health: Military Women in Combat, Deployment & Contingency Operations. Recommendations. Bethesda, MD: Uniformed Services University of the Health Sciences. (AD A327 189)

Mission readiness is significantly impacted by disease and mental, physical, and spiritual health. Military women need to be educated and aware of measures they can take to stay in good health. They are often exposed to extreme environments where it is even more important that they are responsible for their health. The authors of this report have found many areas where men and women differ in relation to health. They have found that women are more likely than men to be depressed and describe phobias and panic attacks. Although women are more likely to report distress than men, they are also more likely to have good social support and use different coping behaviors that can offset the negative effects of distress. The authors highlight twenty recommendations from their work.

Appendix D

Marital Status, Dependent Status, and Dual Military Couples Articles

14. Schumm, W. R., Bell, D. B., Rice, R. E., and Perez, M. M. V. (1996). Trends in Single Parenting in the U.S. Army. Psychological Reports, 78, 1311-1328.

Soldiers' marital and dependent status has changed drastically over the years. This article attempts to discuss the factors that have been changing that status. Soldiers, historically, were male, single, and without children. Since the 1970s, females have increased in numbers in the military and more males are married with families. Overall, military women are less likely to marry than military men; when they do marry, they are more likely to marry a military spouse. Military women are somewhat more likely to be single parents; however, there has been an increase in the number of military men who are single parents. The percentage of female soldiers who are single parents increased from 9% in 1979 to 16% in 1991. The percentage of male soldiers who are single parents increased from 2% to 5%. This report looks at the effect of these trends on retention, readiness, and family adaptation.

15. Schumm, W. R., Bell, D. B., Rice, R. E., and Sanders, D. (1996). Trends in Dual Military Couples in the U.S. Army. Psychological Reports, 78, 1287-1298.

The purpose of this article is to present the changes that have occurred in dual military families in the Army over time and to discuss the recent research regarding the effect the changes have had on the Army. Dual military couples are couples in which both spouses are on active duty in the military. In 1970, a larger number of women began entering the military. Until that point, there were very few dual military families in the Army. However, now that there are increasing numbers of women in the military and regulations concerning dual military couples have been revised, many more dual military couples exist.

The Army has been ranked second in percentages of soldiers involved in dual military marriages at 7.6%. The Army has also been found to have the highest "fit" with family life and the least financial hardship. Soldiers in dual military marriages were promoted faster and had better quality and output of work than other married soldiers. However, they also were late to work more often, missed more alerts, and took more time off for emergencies if the couple had children. In addition, if the couple had children, they were more likely to use Army daycare. With respect to retention, Army wives in dual military marriages were less likely to reenlist than their military husbands. The article concludes with a discussion about the effects of downsizing the Army.

16. Schumm, W. R., Bell, D. B., Rice, R. E., and Schuman, P. M. (1996). Marriage Trends in the U.S. Army. Psychological Report, 78, 771-784.

This article reviews the history of the U.S. Army from 1776 to the present with regard to the Army's support to soldiers and soldiers' families. Several key events are identified including: pensions for families of deceased commissioned officers (1794); pensions for families of deceased noncommissioned officers (1802); provision of family housing for officers assigned to frontier posts (1840s); allotments of pay for families (1917); creation of the Army Community Service Agency as the central agency to coordinate family problems and services (1965); establishment of family violence services (1974); provision of child care services on Army installations (1977); and the establishment of the U.S. Army Community and Family Support Center (1984). The report also finds that as rank increases, so does the likelihood of marriage. This trend is found for both males and females. However, overall military females are much less likely than men to marry. Also examined in this report are the relationships between marriage trends and retention and readiness.

17. Segal, M.W. (1986). The Military and the Family as Greedy Institutions. Armed Forces & Society, 13 (1), 9-38.

This article discusses the societal institutions of the family and the military. Both institutions demand a high level of commitment, loyalty, and time from individuals and are, therefore, termed "greedy" institutions. The author includes a section specifically on women, and states that these institutions are somewhat greedier with women than with men. Military women have less control than civilian women over such things as where they will live or where they will work, which creates a problem with the family. These women cannot adapt to the traditional expectation that the woman will move to wherever her husband's job takes the family. In fact, the family may have to separate to meet the Army's assignment requirements. Military women are less likely than their male counterparts to be married and to have children.

The author also discusses some special issues related to dual military couples such as coordinating assignments that are collocated, deployments that may coincide creating child-care problems, and readiness issues, to name a few.

18. Segal, M. W. and Harris, J. J. (1993). What We Know About Army Families (Special Report 21). Alexandria, VA: U.S. Army Research Institute of Behavioral and Social Sciences. (AD A271 989)

Segal and Harris report a large number of findings regarding Army families. In addition, they provide recommendations directed at supervisors and unit commanders, as well as installation commanders and policy makers in the

Department of the Army. The authors have found that single parenthood is not a permanent status. Many single soldiers eventually marry or remarry and would be a lost resource if single parents were not allowed in the Army. Family issues are very important in retention. Men who are married and have children have greater retention because of the job security. Women who have children, on the other hand, have decreased retention. Spousal support positively influences retention intentions; separations from family due to duty assignments negatively affect retention. The authors also found that having a family support group has a positive effect on unit readiness. But the most important influence on unit readiness is soldier perceptions of their unit leaders' support for soldiers and their families. Policy issues are discussed and recommendations are provided.

19. Teplitzky, M. L., Thomas, S. A., and Nogami, G. Y. (1988). Dual Army Career Officers: Job Attitudes and Career Intentions of Male and Female Officers (ARI Technical Report 805). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences. (AD A199 071)

The authors of this study were interested in learning more about dual Army couples in an effort to improve personnel policies and family programs which would, in turn, improve the quality of Army life and the retention of good soldiers. Interviews with officers in a dual Army career marriage were conducted and surveys were administered to the couples. The results concluded that, in these dual career marriages, men were more likely to make the Army a career than the women were. The men had a career path mapped out, whereas the women were less definite about their careers. The authors suggested that this might be due to women having more of the burden when balancing career and family. For instance, if assignments were going to result in a long separation for the couple, the solution would often be for the wife to leave the Army. One reason given for this was that the wife had a higher probability of finding a good civilian job. Army jobs, promotion potential, and dual Army career assignments and marriage concerns were rated as the most important career decision factors by both men and women. Jobs, travel, and living quarters were among the factors that got the highest satisfaction ratings from both. Childcare and pregnancy issues received the lowest satisfaction ratings. With regard to career support, both men and women reported high support from their spouse. The majority of officers of both genders perceived their promotion potential as good. About one-fourth of the officers disagreed that Army promotions were fair. Although the majority of officers felt that the Army treats soldiers and their families well, most also felt that families should be given a higher priority in the assignment system. One concern voiced by about half of the officers is that children may suffer when both parents are in the Army. Overall, officers, both men and women, in dual military marriages were satisfied with the Army.

20. Westwood, J. and Turner, H. (1996). Marriage and Children as Impediments to Career Progression of Active Duty Career Women Army Officers (Research Report). Carlisle Barracks, PA: Army War College. (AD A311 198)

As women have gained more opportunities in the Army, social obstacles have become more obvious. Women on the fast track to career progression in the Army seem to be sacrificing their family life. The authors found these statistics regarding men and women with relation to marriage and children:

- ⇒ Career Army female officers are less likely to be married than their male colleagues.
- ⇒ Career Army female officers are less likely to have children than their male counterparts; 98% of male battalion commanders have children as opposed to 20.3% of the female battalion commanders.
- ⇒ Differences in familial status become more acute the further along the “fast-track” career path an officer has progressed.

The authors make several recommendations to correct the inequities. For example, developing a “family track” with extended leave or with more limited movement to another rank.

Appendix E

Women in Combat Articles

21. Corbett, A. J. (1993). Women in Combat: The Case for Combat Exclusion (Final Report). Newport, RI: Naval War College. (AD A266 940)

In this report the author defends combat exclusion laws. The paper presents information that documents naturally occurring differences in the sexes. Biological and sociobiological views are examined and considered in the way that they affect combat efficiency and capability. Writings of Clauswitz and Sun Tsu are explored and applied to the issue.

22. Finch, M. (Spring, 1994). "Women in Combat: One Commissioner Reports." MINERVA: Quarterly Report on Women and the Military, 12 (1), pp. 1-12.

The author of this article, Captain Finch, U.S. Army, presents the issues that the Presidential Commission considered regarding women in combat. These issues included women as prisoners of war, physical strength and endurance limitations, public opinion, cohesion, pregnancy and conscription. The information presented indicates that female prisoners of war (POW's) appear to have a greater likelihood of being victims of sexual molestation and rape than male POW's. However, many women view this as just another form of torture. Opponents of women serving in combat counter this by saying that putting women at risk would demoralize the American public. However, surveys have indicated that the American public is more liberal about women in combat than the current military restrictions imply. The Commission did agree that women should be subjected to exactly the same physical fitness tests in order to qualify for combat positions if the restrictions were lifted.

Cohesion remained an undecided issue. On the subject of pregnancy, the Commission presented a solution that designates each unit with a deployment probability code. If a woman becomes pregnant in a high probability of deployment unit, she would be moved to a unit with a lower probability. Two alternatives were examined in relation to family policy issues. The goal was to minimize the time that children would have to spend away from their parent(s). Each alternative had drawbacks. One issue of agreement was that the Commission said that women should not be subject to conscription. The author expressed a personal belief that many positions should be opened to women and felt that the Risk Rule is outdated and does not protect women. CPT Finch concludes by saying that "Until our military is able to fully use all of its talent, our nation's best readiness cannot be achieved."

23. Fraser-Andrews, L. J. (1991). Women in Combat: The Operational Impact of Meeting a National Security Necessity (Final Report). Newport, RI: Naval War College. (AD A236 555)

The author of this report discusses many areas of controversy regarding women in combat. An historical overview of women in the military is given, followed by a discussion of arguments for both sides of the issue. The author cites demographic reasons, such as the shrinking population of qualified and available men, as justification for a full integration of women in the Army. The author also addresses a changing battlefield that blurs the lines between combat and support positions. Male bonding has been a concern that opponents to women in combat use, but the author cites research that says that bonding is possible in mixed-gender groups as well as in single-gender groups. The perspective of other nations toward women's integration is the final issue discussed in the report.

24. Hay, M. S. and Middlestead, C. G. (1990). Women in Combat: An Overview of the Implications for Recruiting (ARI Research Report 1568). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences. (AD A227516)

This report covers recruiting issues that might come up if the combat exclusion policy were eliminated. Women's roles would inevitably change if they were allowed into combat. In various surveys, military personnel have given mixed opinions on the issue. Several changes have facilitated the public's increasing acceptance of women in combat. Women in the civilian sector are making great strides in decreasing the gap between men and women at work.

The authors present models of other nations that are integrating women into their combat forces and cover arguments that are both for and against women in combat to provide a balanced picture of the issue. Finally, suggestions are given on modifying recruiting programs to incorporate women into combat occupational specialties and branches.

25. Knotts, L. W. (1995). Infantrypersons (Monograph). Fort Leavenworth, KS: Army Command and General Staff College, School of Advanced Military Studies. (AD A309 829)

This report examines the issues of eliminating the combat exclusion laws and ways to integrate women into the Infantry corps. The author believes that leaders of the Army need to have a plan of integration and he provides recommendations. The author advocates introducing women at each level of command within the brigade from rifle squad member through platoon leader to brigade staff officer simultaneously. This should be done in peacetime at the Army's own pace. The author discusses available literature on women in ground combat and reports

attitude survey and physical testing data. He concluded that current attitudes suggest that the time may be right to include women in the infantry and that minimum gender-neutral physical standards for service in the Infantry would maximize potential for increasing combat effectiveness while allowing the most capable soldiers to fight for their country.

26. McDonald, R. A. (1991). Women in Combat—When the Best Man for the Job is a Woman (Research Report). Maxwell, Air Force Base, AL: Air War College. (AD A249 514)

In this report, the author describes his views on women in combat and indicates that the Army excludes women from holding combat positions on the basis of departmental regulations and indicates that these regulations and statutes are discriminatory. He points out that the Supreme Court must decide if the statutes prohibiting women from combat are constitutional; however, the Court avoided one chance to decide the issue and has not had another since. The author asserts that the combat exclusion laws treat individuals differently on the basis of their gender; therefore these laws should be subject to judicial scrutiny. The author then cites several court cases of interest.

The author categorizes the theories promoting the exclusion of women from combat and then goes on to explain and invalidate each theory. One popular argument for retaining the current policy is that women lack the physical strength to fight in combat. The author states that "The correct issue is not whether the average woman is stronger or weaker than the average man but whether any woman is stronger than the weakest man allowed to fill a combat position." Minimum physical standards for combat positions would solve the problem.

27. McGann, D. R. (1998). Eliminating the Combat Exclusion: Solution to a 25-Year Old Problem (Research Report). Carlisle Barracks, PA: Army War College. (AD A344 994)

This report examines the efficacy of the combat exclusion policy. The author feels that there are more problems than benefits resulting from the policy and suggests that the military needs to reexamine the exclusion of women from combat and make the necessary changes to become a more effective Army.

The author first examines the effects of exclusion on the men and women in the Army and contends that discrimination results because exclusion separates men and women. Men do not get to know first hand what women can accomplish and contribute, and the myths about women are maintained. Many people say that women should be protected and that they are not ready to watch women die in war. The author questions why a woman's life is more precious than a man's life. The

point, then, is whether empirical fact or personal biases are the reason for the combat exclusion policies.

The author suggests that since the U.S. Military has no competitors at this time, the time is right for experimenting and reevaluating the combat exclusion policies. Six-week trials for all specialties closed to women by developing physical and psychological test standards are the first recommendation. The author suggests that the failure rate for women will be significantly higher than for men at first, but will improve with time and improved training. Only after these trials can the military be truly capable of assessing women's ability to perform in direct ground combat roles.

28. Saimons, V. J. (1992). Women in Combat: Are the Risks to Combat Effectiveness Too Great? (Monograph Report). Fort Leavenworth, KS: U.S. Army Command and General Staff College, School of Advanced Military Studies. (AD A258 247)

The author investigates the effects of women in combat based on a model for unit cohesion. Analogies involving firefighters, police officers, and the integration of Blacks into the Army serve as the author's examples. The model includes seven cohesion-building factors. They are (1) having a definite unit mission, (2) interdependence, (3) training, (4) unit identity, (5) personnel stability, (6) communications, and (7) leadership. The Women in Combat Task Force Study Group found that for each cohesion-building factor, women either had a positive effect on building combat effectiveness or had a neutral effect. In addition, heterogeneous groups were found to perform better than homogeneous groups during the study.

29. Segal, S. R. (1986). The Impact of Gender Integration on the Cohesion, Morale, and Combat Effectiveness of Military Units (Position Paper for the Canadian Department of National Defense). College Park, MD: The University of Maryland.

This paper addresses the issue of women's integration into the military. The author proposes that the impact of women's integration has been difficult to evaluate because of several factors. First, there has not been a good way to evaluate what the effect of women in combat units would be because the battlefield is not the right place to experiment, and military forces have avoided extensive studies. Second, the term "combat" has a very arbitrary definition. The author states, "...there has been little agreement on whether this exclusion should be defined in terms of occupational specialty, unit assignment, or distance from the forward edge of the battle area. What is clear is that none of these definitions really protects women from combat..." Third, the author feels that our definition of cohesion is too narrow and deterministic. The paper goes on to explore gender integration as it relates to various topics including cohesion, performance, and differences in men and women. It concludes with recommendations.

30. Smith, D. W. and Mowery, D. L. (1992). Women in Combat: What Next? (Final Report). Newport, RI: Naval War College. (AD A250 268)

The authors suggest that the combat exclusion laws will soon be eliminated, allowing women to serve in combat positions. They stress that this event will spark many questions that will need to be answered. The report begins with a history of women who have served in combat related positions. Then the authors introduce the main issues that would need attention if the combat exclusion policy were eliminated including deployment rates, unit cohesion and bonding, harassment and fraternization, facilities and logistics, strength, and unit effectiveness.

The authors discuss pregnancy, childcare, and menstruation as factors that affect deployment rates. Under unit cohesion they discuss the importance of leadership in successfully integrating women in the unit. As for sexual harassment and fraternization, the authors indicate that the key is training for both unit members and leaders. The authors contend that privacy is a greater issue for women in terms of facilities, and that planning is necessary for sleeping and toilet arrangements. But they point out that under hazardous conditions these problems are less of an issue and not insurmountable. With respect to strength issues, not all combat tasks call for physical strength. Some require more technical skills and hand-eye coordination, and some are actually performed better by a person smaller in stature. Finally, the authors believe that commanders need to prepare their units for the changes that will occur, psychologically and logistically, when the combat exclusion laws are lifted to ensure unit effectiveness.

Appendix F

Leadership and Team Articles

31. Bird, M. E. (1997). Leadership, Training, and Gender Influences on Team Decision-Making (Master's Thesis AFIT-97-056). Wright-Patterson Air Force Base, OH: Air Force Institute of Technology. (AD A326 059)

This thesis examines team decision-making and gender. The experiment involved one hundred ninety-two undergraduate students combined into 96 two-person teams. The variables of interest were gender of the leader, gender of the non-leader, gender mix of teams, and whether the leader or non-leader was provided prior relevant training. Analysis of variance showed significantly quicker times to solve the puzzle for teams with a male non-leader instead of a female non-leader. Teams with male non-leaders had shorter average times per move. Female-female teams exhibited significantly longer total times and average times per move than male-male teams. Female-female teams with the leader trained were much faster in average time per move than teams where the non-leader was trained.

32. Kellett-Forsyth, S. P. (1993). A Study of the Relationship Between Leadership Style and Gender (Master's Thesis). Fort Leavenworth, KS: U.S. Army Command and General Staff College. (AD A272 825)

This thesis contends that women officers in the U.S. Army use a more participative leadership style than male officers do. Thirty men and thirty-four women were subjects in this study. The two measurement instruments used were the command philosophy statement and the Leader Behavior Analysis II Self-A Survey. The findings of the study did not support the hypothesis. It found male and female officers to be very similar in their choice of leadership style.

33. Murphy, S. D. (1997). Support to Academic Based Research on Leadership Vision and Gender Implications (Research Report). Carlisle Barracks, PA: Army War College. (AD A326 613)

This report contends that gender is a variable in leadership vision and should be looked at more closely. Since women are being more fully integrated into the Army and the future is moving faster than ever, leadership vision will have a greater impact on the Army. Vision is needed to find opportunities resulting from the various changes taking place in the Army; one such opportunity is to better utilize its personnel resources. The Army needs the best soldier for the job in each position, regardless of gender. Men and women can make a greater contribution by being placed in the positions that more closely fit their skills and abilities, not positions that are traditionally occupied by women or by men. Understanding the

gender similarities and differences in leadership is important to the Army because diversity will continue to increase in leadership positions. Men and women have been found to have different leadership visions. Men's vision is described as planned, long term, formalized, and strategic; women's vision is described as flexible, innovative, action oriented, integrated, and inspired. Capitalizing on the leadership strengths of both genders would provide the greatest benefit to the Army.

34. Scherb, B. J. (1997). Gender Communication Differences: The Impact on Strategic Leadership and Decisionmaking (Research Report). Carlisle Barracks, PA: Army War College. (AD A326 430)

As more women move into strategic leadership positions in the Army, it becomes more important to understand how men and women communicate. The author points out that we expect communication difficulties from people from different ethnic cultures, but we don't usually expect people who grew up in the same culture to differ in their understanding of words. However, there are about 105 known communication characteristics involving speech, voice, facial expressions, and body language that distinguish men from women.

In the corporate world, women in strategic leadership positions make an important contribution and there are a number of leadership areas where women generally perform better than men. As an example, women perform better in flatter organizations, which are becoming more popular these days. Women are more likely than men to involve others in the decision-making process, which contributes to worker empowerment. Women are also more comfortable in the interpersonal world and address emotional issues that might otherwise go unattended and lead to larger problems. Finally, women are better negotiators.

Leadership development has been relatively similar for the corporate world and for the military, and women's representation at the top is expected to increase in both the corporate world and the military. The military can benefit from an understanding of gender communication differences and methods to overcome or capitalize on the differences as women move into strategic leadership positions.

35. Steinberg, A. G. and Foley, D. M. (1995). Mentoring in the Army. Paper presented at the 103rd Annual Convention of the American Psychological Association, New York, NY.

This paper looks at mentoring in the Army with regard to its dimensions and as a function of gender and race. Two of the questions asked deal with gender: (1) Do fewer women than men have mentors? and (2) Do mentor relationships provide different benefits for men and women? The data were obtained from a mail survey of active duty Army officers and senior noncommissioned officers and supplemented with focus group interviews.

The results found that there were no differences in mentoring (the number being mentored, the forms of assistance being received, or in the perceived helpfulness of the mentors) as a function of gender. Discussion indicated that any perceived glass ceiling that might exist in the Army for females would not be the result of differential mentoring.

36. Terry, J. C. (1996). Leadership Development of Senior Military Women in the Army (Strategy Research Project). Carlisle Barracks, PA: Army War College. (AD A308 983)

The author of this report provides personal impressions of the Leadership Development Workshop conducted by the U.S. Army War College and analyzes how to improve women's development in the Army. Three themes emerged from the workshop: challenges to senior women leaders, differences in style of leadership, and future trends concerning leadership styles.

Challenges to Senior Women Leaders. Four major challenges are discussed. The first challenge for women in the Army is to recognize that they usually have to work harder to get where they are. The second challenge is how to lead when the male model of leadership is what is accepted and your abilities are questioned if the male model is not followed. A third challenge is the absence of role models in leadership positions. A woman who is just starting out in a leadership role has very few senior women leaders to look to for guidance or to see how someone else handled a situation. Men are more likely the role models that are available for women, but because of a difference in style and experience, they may be less effective for women. The fourth challenge that emerged was the burden of managing family responsibilities and an Army career. Military men are more likely to have a non-military wife to take care of the family who does not have a full-time career; military women are more likely to have the family responsibility because they have a military husband or a civilian husband with a full-time career.

Differences in Style of Leadership. Women generally use a different approach to leadership than men; women are more cooperative and open, while men are more authoritative and hierarchical. Women are also more flexible and innovative. As the Army changes, these female characteristics may be more useful and more effective in missions involving peacekeeping, peacemaking, etc. Networking was identified as an important element in effective leadership and something that women do not do as well as men. In addition, senior women leaders need to be better mentors for younger subordinates.

Appendix G

Gender-Integrated Training and Gender Integration Articles

37. Devilbiss, M. C. (1985). "Gender Integration and Unit Deployment: A Study of GI Jo." Armed Forces and Society, 11, 4.

In this article, the author examines several key issues relating to gender integration. Devilbiss used a methodology of participant-observation while involved in an exercise to test rapid deployment under simulated combat conditions. Several weaknesses of this methodology are cited, however, the strength of the methodology outweighs the weaknesses because insights could not have been gained without being an active participant in the exercise.

Devilbiss found that mixed-gender relationships in this environment were non-sexual. The author addresses gender-specific feelings in this particular environment and reports that there was increased gender consciousness (females being conscious of their gender at all times). Feminine hygiene is often cited as a problem for women; however, menstrual issues did not affect women's physical performance. Devilbiss contends that women can definitely survive mentally and physically in harsh environments. With respect to combat readiness, Devilbiss observed that gender was not important and that both men and women requested assistance from one another. She also noted that men and women were able to bond during the exercise and most soldiers reported that they felt closer to the people they worked with than to their own gender group. "Common experience" was the crucial element in bonding. In summary, Devilbiss said: "The findings of this study indicate that cohesion is based on commonality of experience, shared risk, and mutual experiences of hardship, not on gender distinctions."

38. Green, B. D. III. (1994). Women in Basic Training: The Controversy Continues (Research Report). Carlisle Barracks, PA: U.S. Army War College. (AD A279 524)

This paper looks at four studies concerning the integration of women into Army Basic Training. The author suggests ways that the Army could best integrate women and then examines the role of women in the Army. The author believes that there is a lack of vision and comprehensive strategy guiding the effort and suggests that the question of how to best integrate women into basic training is perhaps premature. The role of women in the Army should first be clarified before they can be correctly integrated into Army Basic Training. The author suggests that the question to ask should be "How do we optimize the force to defend the national interests and how can both men and women best contribute?"

39. Herbert, M. S. (Spring, 1993). "From Crinoline to Camouflage: Initial Entry Training and the Marginalization of Women in the Military." MINERVA: Quarterly Report on Women and the Military, 11 (1), pp. 41-57.

With this paper, Herbert discusses reasons for the limitation of opportunities for women in the Army. The primary issue, from Herbert's point of view, is that most people conceptualize men as soldiers and soldiers as men. Herbert contends that basic training is the first disadvantage to women. In basic training, the emphasis is on not being feminine. Racial slurs are not accepted, but sexist remarks are, and are often used to motivate the men. The ritual of basic training is exaggerating that which is masculine; and combat training is epitomized as the ideal for the soldier. This presents a number of problems for female recruits from the outset. At the same time, Herbert says, females are constantly reminded of their gender by different physical fitness requirements and ill-fitting uniforms. Herbert claims that the only way to break the masculine mindset is to allow women the opportunity to perform all military jobs, including combat duties.

40. Latour, S.M. and Marston, S.K. (1999). Every Citizen a Soldier: Historic Foundations for Gender-Integrated Training (GIT) and Implications for Air Force Readiness. (Research Report), Maxwell Air Force Base, ALA: Air Command and Staff College.

This paper examines several problem areas related to the debate over gender-integrated training (GIT) and military readiness in the DOD. The primary question in this debate is whether integrated training (men and women training together) is in the best interest of military readiness. Included in this review is a brief history of the evolution of women in American national defense, as well as the parallel legislative measures that accompanied each notable movement. The sociological work of Dr. (Lt Col) Karen Dunivin and her models of military culture are discussed. The primary focus of the review is the 18-month period (1997-1999) when the Senate charged each service to investigate the propriety of GIT for their branch, and make recommendations and changes, if necessary. The authors provide a current and comprehensive look at a highly complex and volatile issue.

41. Mottern, J. A. and Simutis, Z. M. (1994). Gender Integration of U.S. Army Basic Training. Proceedings of the 36th Annual Conference of the International Military Testing Association, paper #24-29.

The purpose of this paper was to discuss attitudes about various topics related to gender-integrated Basic Combat Training. Specifically, data were collected on soldier pride and commitment to the Army, morale, teamwork, and cohesion. The data were collected during two studies - Summer/Fall 1993 (Study I) and Summer 1994 (Study II). In Study I, each battalion consisted of one all male and one all-female company, two 75% male and 25% female companies, and one 50% male and

50% female company. In Study II, there were four companies that were gender integrated with 75% males and 25% females.

The results showed that soldiers were very committed and proud to be in the Army regardless of their gender, training mix, or phase. Individual morale was high and did not differ according to gender, training mix, or phase. The teamwork level was reported to be higher for single-gender (SG) males in Study I, gender-integrated (GI) females in Study I, and GI males and females in Study II. Both GI males and females in Study II reported higher levels of cohesion than any units in Study I. It was found that the results for males in gender-integrated training during Study II were similar to the results for the all-male units in Study I. For females, gender-integrated training significantly improved performance and teamwork in both studies compared to all-female training. Females were also much more positive about training when they were in gender-integrated units.

42. Mottern, J. A., Foster, D. A., and Brady, E. J. (1997). The 1995 Gender Integration of Basic Combat Training Study (ARI Study Report 97-01). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences. (AD A322 335)

The U.S. Army Research Institute conducted a series of three studies on the integration of men and women in basic combat training (BCT): 1993, 1994 and 1995. In the 1995 study, four BCT companies at Fort Leonard Wood and six BCT companies at Fort Jackson formed the sample; all companies were integrated with 75% men and 25% women. As in 1993, a pre-training and a post-training survey was administered to all soldiers, as well as a post-training survey to drill sergeants; separate focus group interviews were conducted with male and female soldiers and drill sergeants; and, in 1995 only, a short questionnaire was administered to all soldiers from the sample companies who did not complete the training (attritees).

The 1993 study used an experimental design with two training battalions of 10 companies from Fort Jackson. In each battalion, one company was all male, one was all female, two were 75% male and 25% female, and one was 50% male and 50% female. Overall, 1995 findings indicated that the physical condition of trainees entering BCT was extremely poor, especially for females. Females who were trained in the gender-integrated units improved their performance on all measures of physical fitness compared to females trained in all-female units in the 1993 study. Males in gender-integrated units improved their performance on two measures of physical fitness compared to males in all-male units. Females in gender-integrated training showed higher levels of soldierization than females in the all-female training units; there was no difference in levels of soldierization for males. It was found that both male and female trainees and drill sergeants reported that females were treated differently by some drill sergeants, and drill sergeants believed that the Drill Sergeant Course did not adequately prepare them to train soldiers in gender-integrated units. Finally, the soldiers who left before completing their training were

initially less committed and less confident about their abilities to complete BCT; gender integration in the unit did not affect the attrition rates.

43. United States General Accounting Office (1996). Basic Training: Services are using a Variety of Approaches to Gender Integration (GAO/NSIAD-96-153). Washington, DC: Gebicke, M.A. (AD A309 990)

This report analyzes the different approaches that the military services are using to integrate men and women in basic training. The services differ in the programs they use for integrated basic training. The Army has men and women following the same program of instruction, with differences in medical exams, hygiene classes, and physical fitness test standards. The Army trained all of its women and 49% of its men in gender-integrated units composed of 20-50% women. The cost of integration has been low for all the services except the Army, which spent \$67,000 to modify barracks. The Army found that the performance of women in gender-integrated training groups was significantly improved and the performance of men was about the same when compared to single-gender training.

Appendix H

Equal Opportunity Articles

44. Dansby, M. R. and Landis, D. (1998). Race, Gender, and Representation Index as Predictors of an Equal Opportunity Climate in Military Organizations. Military Psychology, 10 (2), 87-105.

This article seeks to explain perceptions of an equal opportunity climate in the military by testing two hypotheses concerning minority females. The first hypothesis stated, "Minority female officers will have more favorable views of EO climate as their proportion in the organization increases." Minority female officers are usually viewed as tokens and treated differently. As the number of minority female officers increases, they will not be viewed as different and their perceptions of the EO climate will be more favorable. The second hypothesis was, "Better educated minority women will report less favorable perceptions of EO climate." Since all officers have at least a bachelor's degree, it was suggested that perhaps they would be more aware of EO issues and would be better able to accurately rate the EO climate. The authors assumed this to be the reason that minority female officers generally have less favorable perceptions of EO climate. The results supported hypothesis one; however, did not support hypothesis two.

45. Ellefson, K. G. (1998). Advancing Army Women as Senior Leaders-Understanding the Obstacles. Carlisle Barracks, PA: Army War College. (AD A344 984)

This paper tries to determine what causes high numbers of women to leave the Army before they reach senior grade levels. The author hypothesizes that there may be too many inherent obstacles that women encounter as they try to advance through the ranks. The percentages of women rapidly decrease as the grade level goes up; women make up only 2.7% in grades O-7 or above.

The author cites the male-oriented culture that highly values physical strength as a barrier to female acceptance in the Army. Women continue to be seen as outsiders or as "tokens." This is especially true of women entering the officer corps because there are so few of them. The obstacles blocking women's advancement, as seen by the author, are having women's competency go unrecognized, being excluded from information networks, being excluded from experiences that are needed to prepare leaders for upper-level assignments, and being singled out because of their sex rather than their achievements. The author also discusses gender role confusion as an obstacle.

46. Francke, L. B. (1997). Ground Zero. New York: Simon & Schuster.

This book addresses many issues concerning women in the military. It takes the reader through various military events to illustrate women's treatment in the military, opponents' arguments, and women's fight for equality. Operation Just Cause in Panama and Captain Linda Bray's treatment and Operation Desert Shield and Desert Storm and how women performed are discussed. The underlying issues of women as a threat to military men and the military's fight to keep women from being equals are examined in relation to the events. Arguments against women in combat are laid out according to the events that sparked the debates. Some examples of popular arguments used to support the exclusion of women from combat are included such as, pregnancy, public opinion, feminine hygiene, male bonding (cohesion), and women's lack of physical strength. The harassment and sexual attacks that women are exposed to are shown in stories told by military women. These stories are not related to enemy treatment while deployed but, rather, their experiences in the military academies and in their units. Finally, the fight to allow female Air Force pilots to fly combat planes is described in detail. The author makes the point that women have made significant progress in their careers during the events this book describes, but the cultural wars that women confront are ongoing.

47. Harrell, M. C. and Miller, L. L. (1997). New Opportunities for Military Women. Effects Upon Readiness, Cohesion, and Morale. Santa Monica, CA: The RAND Corporation.

This study evaluates the integration of women into positions that were previously closed to them and to assess the effects of that integration on readiness, cohesion, and morale. Fourteen units were visited to assess the integration using individual interviews, focus group interviews, and surveys.

The study found that there was clear evidence of progress in the integration of women in the units. Women are doing things that they were never before allowed to do, such as being able to fly combat aircraft. This change should help them gain experience that will improve upward mobility into higher-level positions. However, the study found that limitations still exist. Units involved in ground combat are still closed to women. In addition, certain positions that are technically open to women are actually closed because the position is coded for someone in an occupation that is closed to women. Also, other positions are closed to women informally because a commander personally decides that a woman should not be in certain positions.

The study found that gender integration did not have a major effect on readiness, cohesion, or morale. The most important factor in unit morale was leadership. Men and women were able to perform well together; and the only limitation on readiness was when pregnancy occurred. Army and Marine Corps men were found to be the most likely to favor the current combat exclusion policy.

48. Hosek, J. R., Peterson, C. E., and Heilbrunn, J. Z. (1994). Military Pay Gaps and Caps (Research Report). Santa Monica, CA: The RAND Corporation. (AD A327 183)

This report investigates the military/civilian pay gap and its implications for determining military pay increases. The pay gap is defined as the percentage difference in military versus civilian pay growth as measured from a given starting point. The index currently used to measure civilian pay growth is the Employment Cost Index, which reflects pay growth in the civilian labor force at large. The authors recommend using a different index to calculate the pay gap by measuring civilian pay growth for the subset of civilian workers whose composition by age, education, occupation, gender, and race/ethnicity more closely represents that of active duty military personnel. The authors used the Defense Employment Cost Index, which they constructed, to compare pay gaps. The findings indicate that the most significant gap is between civilian and military pay growth for women. Junior enlisted women with high school degrees experienced a pay gap of 7.4% in 1992. For senior enlisted women with high school degrees the pay gap was 12% in 1991 and 7.2% in 1992.

49. McMahan, A. P. (1996). Female U.S. Army Personnel in Traditional and Nontraditional Jobs: A Comparison of Their Perceptions of the Quality and Atmosphere of Training. Unpublished dissertation, Virginia Commonwealth University, Richmond, VA.

This dissertation looks at the differences between the perceptions of quality and atmosphere of training for males and females. The study examined males and females in two MOS categories, traditional and nontraditional. The author defined nontraditional MOS's as specialties that either ban women, that women have chosen not to participate, or that the Army allowed only small numbers of women to participate. All MOS's are considered to be traditional for males. Specifically, the author investigated whether or not a relationship existed between the types of MOS training and how soldiers perceived the training. This was accomplished by administering surveys covering various aspects of the training environment to male and female U.S. Army soldiers in Advanced Individual Training.

The author found that subjects in nontraditional MOS's perceived training less positively than those in traditional MOS's. One difference in gender was that females viewed training materials more positively, whereas males viewed classroom atmosphere more positively. Another finding was that the female traditional group was more positive than the female nontraditional group. The author discusses the limitation of the study, especially the non-random selection of participants.

50. Moskos, C. (August 1990). "Army Women." Atlantic Monthly, 71-78.

In this article, Moskos provides an account of the life, feelings, and goals of soldiers who were involved in the invasion of Panama and focuses primarily on women's experiences. Moskos asked about motivations to join the Army and found very different responses for men and women. On the whole, men enlist for economic reasons, and family and friends support their enlistment; women enlist more for the adventure and education opportunities and are not as supported by family and friends. He found that sexual harassment is generally perceived by enlisted women as unwanted advances and touches that come with the life of a military woman; female officers define sexual harassment more broadly by including sexist remarks, the combat-exclusion laws, and subtle discrimination against women. In terms of homosexuality, there seemed to be much more lesbianism than male homosexuality, but women were not as worried about lesbianism as men were about male homosexuality. One difficult issue for women to deal with is that if a woman spends too much time with a male, then she is suspected of having an affair, but if she mainly spends time with women, then she is labeled a lesbian. Another issue that is difficult for military women is marriage and family. Many women are in agreement that it is too difficult to balance an Army career and a family. Brigadier General Evelyn "Pat" Foote's viewpoint was discussed.

Finally, the controversial issue of women in combat is covered by Moskos. He relates that many women, including Foote, feel that all roles, even combat roles, should be opened to women. They realize that most women will not be drawn to combat or even be able to qualify for it, but some women will be able to perform well in combat arms positions. Foote is quoted as giving the additional reason that excluding women from combat "develops a whole male cadre and officer corps that doesn't know how to work with women." Moskos believes that the day of opening combat roles to women is close at hand, but he suggests that the issue will not end there. At that point, the issue will become even more controversial because it will question if every woman soldier should be put at the same combat risk as male soldiers. If the need arises, should all female soldiers be able to be assigned to combat arms? Moskos thinks that not many people have honestly confronted these issues.

51. Stoddard, E. R. (1993). Female participation in the U.S. Military: Gender Trends By Branch, Rank and Racial Categories. Minerva: Quarterly Report on Women and the Military, 11 (1), 23-35.

This paper discusses females' accomplishments in the military and examines the organizational constraints that exist. The author looks at patterns of participation involving females by branch, rank, and race/ethnicity.

The Army was found to have the highest number of combat components, yet it also does the best in promoting opportunities for female officers and enlisted personnel.

Differences between females of different ranks were found. Enlisted women do better in basic training designed specifically for females, usually enter the Army as temporary employment, and have a different self-identity than officers. Female officers prefer to be addressed by their rank-name designations, as male officers prefer. Female officers are more career oriented and tend to serve longer than enlisted women. Females who are also Black or Hispanic are referred to as "double minorities." The percentage of all women in the military has increased from 1.3% in 1971 to 11% when the paper was written. Black enlisted women had the greatest increase in percentages from 14.4% (1971) to 32.8% (1989). Black female officers have followed the same pattern of participation. Hispanic females, enlisted and officers, have not had a significant increase over the same time period.

52. United States General Accounting Office (1998). Gender Issues: Analysis of Promotion and Career Opportunities Data (GAO/NSIAD-98-157). Washington, DC: Gebicke, M.A. (AD A347 227)

The purpose of this report is to discover if there is any truth to the perception that women and men are treated differently in the Army. In order to do this, the General Accounting Office looked at whether or not the military was selecting women and men at similar rates for promotion, professional military education, and key assignments. Data were used for the active-duty force for fiscal years 1993 through 1997.

53. United States General Accounting Office (1998). Gender Issues. Information to Assess Service members' Perceptions of Gender Inequities is Incomplete (GAO/NSIAD-99-27). Washington, DC: Gebicke, M.A.

The purpose of this report was to determine the validity of service members' perceptions of inequality. The two inequities that were mainly examined were career opportunities and physical fitness and body fat standards. With respect to career opportunities, some women felt they were being assigned typically female jobs, such as clerical positions, rather than the positions for which they had technical skills. Some women also were concerned that they were not allowed to hold positions that were legally open to them because of unfair experience requirements such as having served in the infantry. GAO had no evidence to show that these events occurred or that the practices were unfair. Another concern was that women's careers were being limited due to their restriction from combat occupations. GAO found that men and women were promoted at similar rates and that although selection rates differed at times, no systematic advantage existed.

On the topic of physical fitness, some men believed that women were not held to the same standards as men and therefore there was a "double standard." GAO's response was that the physical fitness program's purpose was to maintain physical fitness, not to determine a soldier's capability to perform specific jobs. Therefore,

the physical fitness standards could be different without being inequitable. Finally, some women stated that the body fat standards for females were unrealistic. GAO found it impossible to assess because of the following reasons: 1) body fat standards were not always based on scientific data, 2) differences in each service's equation for estimating body fat could result in widely varying estimates of the percent of body fat for the same women, and 3) changes in the mix of ethnicity and other population characteristics of the current military call into question the representativeness of the populations used to develop the current equations.

Appendix I

Sexual Harassment Articles

54. Miller, L. L. (Spring 1995). "Creating Gender Détente in the Military". MINERVA: Quarterly Report on Women and the Military, 13 (1), pp. 15-18.

Sexual harassment in the military had been in the media spotlight and Miller's goal in this article was to increase awareness of ways to handle harassment successfully. She states that most Army women (74 percent) have not experienced gender-related problems. Miller believes that the insights of these women can help others. Large-scale surveys, interviews, and field observations of active-duty Army personnel constituted her assessment. Based on her findings, the most important strategy for Army women is to be treated as a soldier first, and as a woman second. The specific strategies used to achieve this are to 1) desexualize the workplace, 2) focus on job performance, and 3) confront harassment directly. Successful Army women desexualize the workplace by downplaying their sexuality. They present themselves in a business-like manner or refer to fellow male soldiers as brothers. They focus on performance by working hard and only asking for help when necessary. Lastly, they confront their harassers directly and let them know that they will not tolerate inappropriate behavior. Women have found that the threat of using the system of reporting sexual harassment can be more effective than actually using it.

55. Sadler, A. G., Booth, B. M., & Cook, B. (1997). Sexual Victimization and the Military Environment: Contributing Factors, Vocational, Psychological, and Medical Sequelae (DAMD17-95-1-5073). Iowa City, IA: Veterans Administration Medical Center. (AD A345 471)

The authors indicate that violence in the workplace is a major problem for the Army. They base this statement on a 1990 Pentagon survey. The purpose of this report is to examine the relationship between the military environment and sexual victimization. The report also seeks to determine job impairments due to consequent health status and psychological outcomes of victimization. The authors believe that this information will help develop prevention strategies to improve women's safety.

The subjects in their study were women veterans who had served in Vietnam, post-Vietnam, or the Persian Gulf War eras. The majority of subjects served in the Army. The findings of the study are as follows: High rates of physical assault, repeated rapes, and dual victimization during military service were found. Officers, superiors in the chain of command, and immediate supervisors were most commonly cited as perpetrators of violence. Between 33% and 72% of service women did not formally report their victimization because the person they would

report to was the perpetrator or friend of the perpetrator. All forms of victimization occurred most frequently on base. Service women experiencing violence reported more sick and light duty days, sustained more work injuries, and left the military earlier than non-victimized service women. Physical and sexual victimization resulted in substantial, long-term physical and emotional health consequences.

Recommendations to decrease this violence against military women included new reporting procedures, greater overseeing of conduct in the day-to-day workplace and barracks, and rape prevention training. Screening for trauma was also suggested as an aspect of routine physical examinations.

Appendix J

Attitude and Opinion Articles

56. Harris, B. C. (1994). Perceptions of Army Officers in a Changing Army (ARI Research Report 1662). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences. (AD A282 636)

This report highlights findings from the 1988-1992 Longitudinal Research on Officer Careers (LROC) surveys. The LROC tracked the trends and changes in officers' attitudes and career decisions. This report specifically focuses on organizational identification, job/career issues, and perceived civilian job alternatives.

The results showed that more officers want to stay in the Army 20 years or more than expect to stay 20 years or more. This is true for both male and female officers. About the same number (around 70%) of male and female officers reported feeling satisfied with their jobs. In 1988, more male than female officers felt that their opportunities for advancement were good (64% vs. 58%). By 1992, the gender difference had disappeared and about 55% of both said this. The author reports a few gender differences related to attitudes about the Officer Evaluation System and opportunities for command in their branches. With respect to the perceived effects of downsizing, similar numbers of male and female officers were in agreement (two-thirds) that they thought they would have to work longer hours and only about one-third thought they would be promoted on or ahead of schedule

57. Hay, M. S. (1992). Gender and Ethnic Effects in the 1990 Army Career Satisfaction Survey (ARI Technical Report 963). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences. (AD A257 778)

This report focuses on soldiers' perceptions of the downsizing in the Army. The report is especially interested in the gender and ethnic differences in the perceptions. The questions asked in the survey covered career intentions, opinions of Army work and training, and attitudes toward downsizing.

Findings included: Men were more interested than women in staying in the Army and making a career of it, regardless of ethnicity. Men and women were similar in their confidence of promotion opportunities. More women indicated that what they most enjoyed doing was not what was mainly found in the Army. Downsizing was a major issue for women. They were significantly more likely than men to believe that the best soldiers would not be retained in the smaller Army, that the leadership would not make the best selection decisions to have a quality force, that the Army would not be able to protect their benefits, and that they would be offered an early out option. Overall, women were less optimistic about the downsizing.

58. Jones, J. T. (1997). Gender Differences in Job Satisfaction in the U.S. Army (ARI-Survey Report 97-04). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences. (AD A339 232)

This report examines men and women's level of job satisfaction in the Army. There were not many differences in job satisfaction between men and women as measured by the factors of stress, global satisfaction, promotion potential, job security, and job characteristics. However, women were much more positive about the benefits, family, equity, basic pay, job security, and job characteristics areas than men were. Men, on the other hand, were more positive about co-workers, supervisors, leadership, developmental courses, and time away from their duty station for military reasons.

The male officer group reported that they were most likely to continue in the Army until retirement. Female officers were the next most likely, followed by male enlisted personnel, and finally, female enlisted personnel. When asked about reasons for leaving, separation from family was important to both female officers and female enlisted personnel. Males did not give this reason. Their reasons included job security, promotion/advancement opportunities, and enjoyment from my job (male officers) and amount of basic pay, promotion/advancement opportunities, and overall quality of life (male enlisted personnel).

59. Scarville, J., Steinberg, A. G., and Harris, B. C. (1996). Women in Green: Attitudes and Opinions. In Gabbay, F. H., Ursano, R. J., Norwood, A. E., Fullerton, C. S., Sutton, L. K., Duncan, C. C., Jackson, S. A. (1996). Sex Differences, Stress, and Military Readiness. Bethesda, MD: Uniformed Services University of the Health Sciences. (AD A321 693)

This chapter presents findings on the attitudes and opinions of both male and female soldiers in the Army focusing, primarily, on research conducted over the previous 5-year period. The chapter discusses three main issues, Army jobs, careers, and family life; and discusses some of the factors that influence women's and men's perceptions of Army life in these three areas.

Within the category of Army jobs, the authors discuss gender-integrated training, women's roles in units, working relationships, combat exclusion, and job satisfaction. Within the category of Army careers, upward mobility, command opportunities, mentoring, and commitment to the Army are covered. Army family life includes dual military families, single parenthood, and work-family conflict.

Findings indicated that in the downsized Army, soldiers, irrespective of gender, were under significant stress from long work hours, unpredictable schedules, and shrinking resources. Despite this, both men and women expressed tremendous commitment to and pride in the Army. Males and females expressed many of the same concerns about jobs, careers, and family; however, female soldiers had some

issues that appear to be unique to them. Concerns over career opportunities that remain closed to them, gender discrimination, joint domicile difficulties when they are married to another service member, and child care.

Conclusions from this 5-year look at attitudes and opinions include the issue that Army men often focus on family factors to explain why women leave the Army or do not progress as rapidly. However, the authors view this explanation as overly simplistic based on the findings discussed in the chapter. It fails to consider the policy, organizational, and role conflict issues that disproportionately affect Army women. Most women, based on the authors' findings and interviews, view themselves as just as committed, motivated, and competent as their male peers; and just want to do a good job and be accepted as soldiers.

60. Shields, P. M. (1986). Sex Roles in the Military. Armed Forces & Society, 13 (1), 9-38.

The military can no longer function without women. They are an indispensable part of the military even in peacetime unlike previous generations when women were only needed in wartime. This paper examines women in relation to two issues: their attraction to military life and their lack of support from the institution.

Women were found to enlist in the military not for employment reasons but for vocational reasons. Wages, unemployment, and job security were not among the primary reasons that women enlisted. Instead, benefits such as discipline and adventure enticed women to join the military.

Institutional support in the military was low for women. Men were negative about gender integration at the day-to-day level. One of the worst displays of lack of support was sexual harassment. Also, women were not supported in their family life by the military and it was very hard for women to balance a family and a military career. The author suggests that the military provide more family-oriented benefits such as expanded childcare.

Appendix K

Retention, Attrition, and Reenlistment Articles

61. Edwards, L. N. (1989). Effects of Marital/Dependency Status on Reenlistment Behavior of Second-Term Enlisted Females. Unpublished Master's Thesis, Naval Postgraduate School, Monterey, CA. (AD A223 824)

This paper investigates the relationship between marital and dependency status and reenlistment behavior of second-term enlisted women. The logit model was chosen to predict if a service member were likely to stay in the military past the second term. Six subgroups were looked at: all males, all females, single women without children, single women with children, married women without children, and married women with children.

Single women with children had the highest reenlistment rate (64%), then all males (63%), married women with children (60%), all females (59%), married women without children (59%), and single women without children (54%). Certain variables affected all groups similarly (pay grade, minority status, perception of civilian job alternatives). Other variables affected the subgroups differently (job satisfaction, traditionalism of job). The author encouraged the use of the results to target reenlistment incentives for specified marital/dependent status groups.

62. Harris, B. C, Steinberg, A. G., and Scarville, J. (1993). Why Promotable Female Officers Leave the Army. Minerva: Quarterly Report on Women in the Military, 12, 1-23.

The authors of this report address the question "why did female officers who had been recently promoted from Captain to Major choose to leave the Army under a monetary incentive program." Telephone interviews were conducted with the women who chose the monetary incentive and were leaving or had left the Army. Additional interviews were conducted with female and male company grade officers to see what factors they were considering in their career decisions as the Army was downsizing.

The results indicated that there were multiple factors behind female officers' decisions to leave, and many of the factors were interrelated. The initial reasons for thinking of leaving were not always the final reason that the women decided to leave. Furthermore, many of the reasons they gave for choosing to leave were the same reasons that officers who chose to stay were considering in making their career decisions, namely: 73% of female officers who left cited Army career and job issues as their reason for leaving; 50% said the reasons were treatment and equal opportunity issues; 73% said family issues; while 37% stated that the monetary incentive was the reason they chose to leave the Army.

63. Hosek, J. R. and Peterson, C. E. (1990). Serving Her Country. An Analysis of Women's Enlistment. Santa Monica, CA: The RAND Corporation.

This report focuses on women's enlistment and recruitment. The author discusses several factors that play a role in a woman's enlistment decision. Those factors are very similar to the factors that men consider. They include academic ability, ability to finance more education, employment opportunities, education plans, and marriage plans. Recruitment also makes a difference in the enlistment decision. Recruiters do not put as much effort into getting women to enlist and, when this happens, the supply of women will be lower. The author feels that since men's and women's enlistment is dependent on many of the same factors, enlistment incentives, recruiting techniques, and advertising strategies could also be the same for men and women.

64. Kocher, K. and Thomas, G. (1990). Gender Differences in the Retention of Enlisted Army Reservists (NPS-AS-91-002, Final Report). Monterey, CA: Naval Postgraduate School. (AD A233 131)

This report tries to determine what factors are affecting retention among enlisted men and women in the U.S. Army Reserve. The 1986 Reserve Component Survey was given to 4,042 enlisted men and women in pay grades E4 and E5. The data from this survey were then matched with personnel records to find out each individual's retention behavior. The findings indicate retirement benefits as the factor that most significantly influenced all four groups. In addition, the opportunity for travel, promotion, education level, social contacts, challenging work, and improved quality of drills increased retention for women. Men were influenced by age of entry and pay grade (both groups), income (no prior service), and travel time to drill and family status (prior service).

65. Schumm, W. R., Bell, D. B., Palmer-Johnson, C. E., Tran, G. (1994). Gender Trends in the U.S. Army and a Discussion of Implications for Readiness and Retention. Psychological Reports, 74, 499-511.

This article explores the effects of gender on retention and readiness. Many variables such as rank, age, education, and race are correlated with gender and make it difficult to make conclusions about the effects of gender on retention and readiness.

Gender has many implications for retention. Enlisted females have a higher job satisfaction than enlisted males. This pattern is reversed for officers. Females were more likely to re-enlist for their first and second terms, but males were more likely to re-enlist for the third term. One possible explanation from the author is that the variables of education, age, and minority status may favor women in relation to a

civilian job. If these variables were controlled for, the author suggests that gender would have no effect on retention.

Males and females both have advantages and disadvantages with respect to readiness. Females were more likely to exceed weight standards, to report taking time off duty, and to have a slower rate of preparing wills and powers of attorney. Males had more alcohol-related problems, higher drug abuse incidence, and more job-related problems. The author found that over-all unit readiness was only slightly lower for units with more females. When examining unit readiness from all the independent variables and analyzing individual readiness, no relationship was found between gender and readiness.

66. United States General Accounting Office. (1990). Women in the Military. Attrition and Retention (GAO/NSIAD-90-87BR). Washington, DC: Jones, P. L.

This report compares attrition and retention rates for military men and women officer and enlisted grades. Attrition refers to voluntary and involuntary exit from the military before the first term of enlistment is completed. Retention is the voluntary continuation of service after the first term of enlistment is completed.

Most leave in the first three months of basic training or in the last three months. Most attrition losses for men and women in the first three months were due to inadequate entry-level performance. Attrition rates for women officers were generally 2 percentage points higher than male officers. Enlisted women have higher rates of attrition than enlisted men (48.6% vs. 44.1%). With respect to enlisted retention, men had higher eligibility rates than women after the first term. This reversed after the third term when women had higher eligibility rates than men. Retention of eligible women after the second term was lower than for men. Women officers had a lower retention rate than male officers after the third and fourth years. After the twentieth year women's retention was higher than men's.

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14. ABSTRACT (Maximum 200 words): This report provides an overview of research, studies, and analyses performed by the U.S. Army Research Institute on the utilization and training of women in the Army. As numbers and roles of women have expanded since the All Volunteer Force began in the early '70s, a number of research projects have been completed to address both the utilization and integration of women in Army units and the training of women, particular in the Initial Entry Training program for combat support and combat service support soldiers. The report also provides an annotated bibliography of research and studies conducted during the 1990s on a wide variety of issues related to women in the Army.					
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