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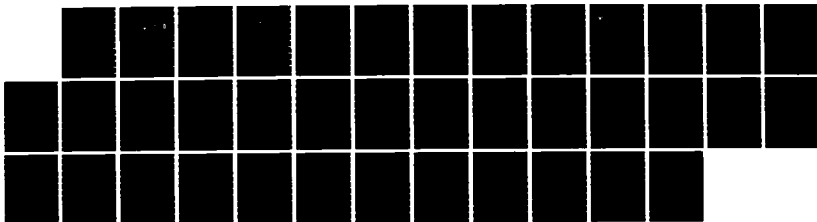
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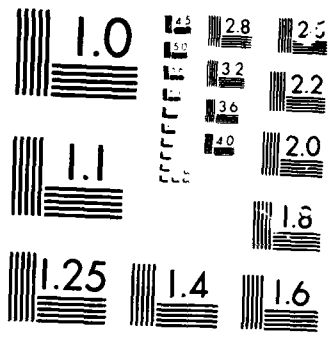
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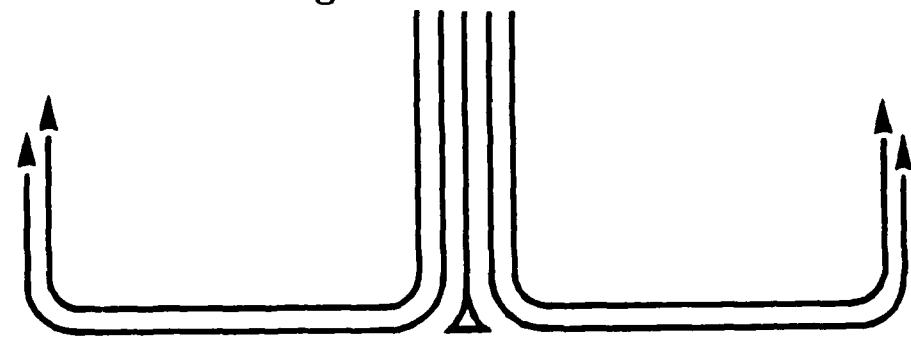
EFFECTS OF PREGNANCIES IN
MAINTENANCE-RELATED AFSCs

MAJOR THOMAS J. MAXSON

86-1645

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REPORT NUMBER 86-1645

TITLE EFFECTS OF PREGNANCIES IN MAINTENANCE-RELATED AFSCs

AUTHOR(S) MAJOR THOMAS J. MAXSON, USAF

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Submitted to the faculty in partial fulfillment of
requirements for graduation.

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MAXWELL AFB, AL 36112

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With the liberalization of regulations regarding utilization of women in the United States military, more women joined the services. They entered many previously male-only jobs and introduced many non-traditional considerations to management. This study evaluates the effect of the Air Force pregnancy policy on one of those non-traditional career fields, Transportation. It includes a review of medical considerations, assignment and utilization policy, and addresses the impact on training, unit readiness, and day-to-day operations. The study supports current policies, while offering suggested refinements to those policies.			
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PREFACE

With the elimination of discriminatory barriers in the Armed Forces, increasing numbers of women have entered the United States military services. Many military women are working in non-traditional jobs and have forced their military and civilian supervisors to come to grips with equally non-traditional management challenges. This paper focuses on one of these challenges, the pregnancy "problem," as it relates to a non-traditional work environment.

I wish to thank both my Faculty Advisor, Major Mikelene Mantel, and my Sponsor, CMSgt Fred Rochelle, for their suggestions, criticisms, and assistance in preparing this report.



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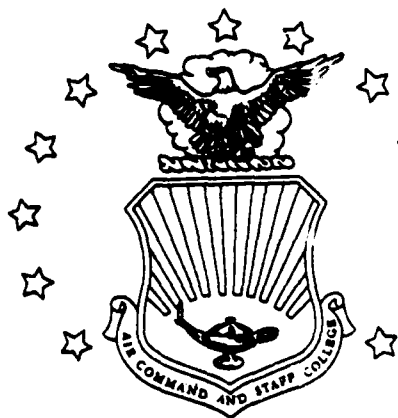
Major Thomas J. Maxson is a career Air Force Transportation Officer. His past experience includes a wide variety of base-level transportation positions, as well as major command headquarters experience. His most recent experience was as a Transportation Plans and Programs Officer at Headquarters, United States Air Force Europe. Major Maxson earned his Bachelor of Arts degree in English at the Virginia Military Institute and a Master's degree in Public Administration from the University of Colorado. His professional military education background includes the Squadron Officer School resident program and the Air Command and Staff College non-resident seminar program.

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REPORT NUMBER 86-1645

AUTHOR(S) MAJOR THOMAS J. MAXSON, USAF

TITLE EFFECTS OF PREGNANCY IN MAINTENANCE-RELATED AFSCS

→ The purpose of this report
I. **Purpose:** To ~~determines~~ determine the impact of pregnant airmen serving in maintenance-related AFSCs on Air Force units.

II. **Problem:** Once female airmen in maintenance-related AFSCs are confirmed to be pregnant, their pregnancy requires that their exposure to hazards normally found in the maintenance environment must be limited. These hazards include carbon monoxide, fuels, oils, and common solvents. In these AFSCs, pregnancy may require the temporary removal from primary duties. A degradation of unit capability may result from that pregnancy. — > 147

III. **Discussion:** Since World War II, increasing numbers of women in the Air Force and progressively more liberal pregnancy policies have combined to create a relatively new military phenomenon, pregnant military women on active duty. Many of these women are working in non-traditional jobs and are being exposed to hazards that are not typically encountered by pregnant women. This addresses those hazards and the associated medical considerations. It traces the current progress of a pregnancy through the Air Force administrative process and looks at the work environment in maintenance-related career fields, Air Force Transportation, and the characteristics of the work environment, enlisted population, and airmen in maintenance-related AFSCs.

CONTINUED

that career field, the impact is evaluated. Through comparison with the Unit Status and Identity Report (UNITREP) model, the effect of pregnancy on unit readiness is not usually, in itself, sufficient to result in a change in unit readiness. In a micro-level review of the unit, the actual degradation may be more significant. Impact of pregnancy on training, the manpower implications of active duty pregnancy, and the future trends are also addressed in terms of the true "cost" of the current Air Force policy.

IV. Conclusions and Recommendations: The current Air Force policy can accommodate active duty pregnancies without incurring a degradation of unit readiness based on pregnancy alone. This does not, however, mean there is no impact to the Air Force because of the pregnancy policy. The true "cost" of the current pregnancy policy must be faced in revised manpower standards, reinstatement of the abortion option in military hospitals, and heightened supervisory awareness.

CHAPTER ONE

OVERVIEW

Although the role of women in the military is not new, the relatively recent increase of women as a significant portion of the work force is new. This increase, together with an introduction of career opportunities for women in an increased number of non-traditional career fields, introduces equally non-traditional management considerations. This study will address one of those considerations, the effect of pregnancy on airmen serving in maintenance-related Air Force Specialty Classifications (AFSCs). Time, resources, and expertise preclude a comprehensive treatment of all military women in all maintenance-related AFSCs (or the service equivalent). Instead, this report will focus on the Air Force Transportation career field, a specific career field utilizing women in a "non-traditional" environment, and will attempt to detail the impact of pregnancy on those units.

This paper will address the historical policies regarding women and pregnancy, the medical and personnel aspects of pregnancy, and assess the impact pregnancy has on a field Transportation unit. Further, it will discuss implications of the current policy on training and manpower and evaluate it against future trends.

HISTORICAL BACKGROUND

"The history of working women in the United States shows a constant conflict between society's desire to 'protect' female workers and the goal of women to enter jobs that offer higher pay and more responsibility" (10:24). In that respect, the military is no different from society at large. Although women served in various capacities in the Armed Forces prior to World War II, the increasing numbers generated by the post-war period and the more liberal policy changes of the mid-seventies make the "problem" of pregnant women serving on active duty a relatively recent military phenomenon. The historical data available is not necessarily accurate. Major General Jeanne Holm described the dilemma.

Illegitimate pregnancy was not stigmatized, but many thought it should be since in American society at that time [WW II] unwed maternity was generally tantamount to moral degeneracy. Prior to the war, the

Army Nurse Corps made a sharp distinction between married and unmarried pregnancy. Pregnant unmarried nurses were given dishonorable discharges which were otherwise reserved for convicted criminals. In fact, the whole subject was so abhorrent to the Nurse Corps that losses for this cause were not officially published and the term cyesis (a synonymous medical term) was used in lieu of pregnancy (2:71).

Whether this was the sole reason or whether issues of dependency care and a potential impact on readiness were also factors can not be accurately determined today. In the post WW II environment, the Women's Armed Services Integration Act of 1948 (62 Stat 373) provided:

The Secretary of the Air Force shall prescribe the military authority which female persons of the Air Force may exercise, and the kind of military duty to which they may be assigned: provided that they shall not be assigned to duty in aircraft while such aircraft are engaged in combat missions (1:22-24).

In 1951, Executive Order 10240 provided authority to the Secretary of the Air Force to terminate the commission or enlistment of any woman who became pregnant or became a parent. This confirmed what had been the prevailing Air Force policy all along (20:1-3). The rationale used to support this discharge policy according to Major General Holm, was that a woman's maternal responsibilities were incompatible with, and should take precedence over, her military career. There was no latitude for individual choice in the matter (2:125). This policy continued unchanged until 1970. In 1970, the Air Force modified the policy to allow women with minor dependents to remain on active duty. In response to a court challenge by an Air Force woman, the policy was further relaxed in early 1971. That change cancelled discharge action if the pregnancy was terminated, permitted pregnant women to request a waiver of discharge, and permitted women discharged for pregnancy to apply for reentry to active duty within twelve months of discharge at their pre-discharge grade (20:1-3). Although the official policy did not change for a relatively long time, it was under scrutiny within the government. In 1975, the Government Accounting Office (GAO) identified the policy of separating pregnant women prior to their enlistment obligation as a policy which contributed to a \$12 million per year problem (2:163). Senator William Proxmire spearheaded opposition to the services, and particularly the Army's, policy which prohibited wide-spread utilization of women. Many service personnel privately shared his view. One Army colonel urged:

Instead of studying the effect of a few pregnant women on unit performance, the time might be better spent assessing the impact of the thousands of male high

school drop-outs recruited each year, many of whom are unable to read the training manuals, or the effect of what could be described as "men's problems" (drugs, absences without leave, etc.) on the readiness of combat units (2:385).

Senator Proxmire also voiced some concern over the services' restricted policies regarding utilization of women as a means to force inevitable shortfalls in manpower levels and justify a return to the draft (2:385).

Regardless of the motivation, pregnancy was no longer considered by the Air Force to be a basis for automatic discharge. Since 1971, women who desire to separate for reason of pregnancy must actively request the discharge. Also since that time, pregnant airmen on active duty have been a management reality.

Chapter Two

MEDICAL CONSIDERATIONS

During the period of pregnancy, the medical considerations are two-fold. First, they must deal with the health, physical characteristics, and physical limitations of the expectant mother. Second, they must deal with the health of the developing fetus. At the same time, while respecting the physical process surrounding childbirth, the challenge to the Air Force is to continue to obtain the highest possible levels of productivity and readiness from the Air Force member.

The following quote from TIG Brief outlines Air Force policy on achieving that balance: "Policy is not to arbitrarily remove pregnant women from their duties. Instead, each pregnancy must be considered on a case-by-case basis, using a careful decision-making process" (12:12).

The TIG Brief article further urges supervisors to enlist the help of the local Air Force medical treatment facility for guidance on how to deal with the pregnant woman. Air Force Regulation 160-12, Professional Policies and Procedures (Medical Service), is the regulation which governs the case-by-case review. Basically, the guidance is administrative in nature. It covers the mechanics of filling out the physical profile documentation and arranging referrals and duty excusals. It does require the physician to "Determine duty restrictions, if required, based on objective medical reasons related to the work environment" (19:13).

Acceptable levels of exposure to the variety of hazards are established during the pregnancy workplace interview. Those hazards include radioactive materials; X-ray or nonionizing radiation (radar, microwave, communications electronics); chemicals (including exposure to chemical agents during chemical warfare training); lifting; bending; pulling; climbing; or working at heights. Further, the pregnancy workplace interview also addresses concentrations of airborne dusts, vapors, and fumes from painting or welding as elements posing potential hazards in the workplace. Certainly most laymen, including the average Air Force supervisor, would have no concept of how many parts per million of a gas vapor exist in their particular work environment, nor, if that concentration represents an acceptable or hazardous level.

The determination of workplace safety is left to the bio-environmental engineer. Their function is to interpret the nature and the extent of the hazards existing in the individual woman's workplace. Through discussion with the pregnant woman and her supervisor, the nature of her duties is established. This data is evaluated against the specific bioenvironmental situation which exists in the individual woman's workplace. This is accomplished through a review of the work area survey data maintained on each Air Force activity. Area surveys are conducted each year on all Air Force activities and quarterly on high-risk and industrial-type activities. The existing levels of various chemicals, gasses, and pollutants in the specific work area are compared to the permissible exposure levels published in the American Conference of Government Industrial Hygienists (ACGIH) publication Threshold Limit Values and Biological Exposure Indices. Based on the ACGIH data, a determination is made by the bioenvironmental engineer whether the work area is "safe" or if it represents a hazard. Pregnant women whose work environment is determined to be "unsafe" through this process must be removed from that area for the duration of their pregnancy.

While this process is comprehensive and does address the specific work area encountered, it focuses on two types of threats. Those are carcinogens, or cancer-causing agents, and tetragens, agents which are not cancer-causing, but which contribute to the development of abnormal structures in an embryo (4:T-13). Various readings suggest that the effect of numerous other substances and conditions are also known to have a correlation to the instances of problem pregnancies or birth defects. Parents magazine suggests, "Insufficient attention has been paid to substances encountered in the workplace and their effect on fertility and pregnancy" (10:25). Specifically, "with over 63,000 chemicals in common use, it's going to take a while before reproductive testing is completed" (10:25).

The problem appears to be more complex than the currently checklisted Pregnancy Workplace Interview format (Figures 1,2) suggests. "People in the health care industry may also be at risk, since a certain level of contact with radioactive materials..." which are addressed "or anesthetic gas..." which is not addressed "also affects fertility" (10:25). Further, the same article refers to risks associated with infections and various toxic substances as other potential problem areas (10:25). Business Week magazine suggests, the known problems may just be the tip of the iceberg as far as hazards to pregnancy are concerned. It reports isolated instances of disproportionately high miscarriage rates among Video Display Terminal (VDT) workers (11:80-82). Although the same article quotes "experts" who discount any risk, all of the spokesmen quoted were associated with the VDT industry. Their disclaimers may reflect vested interests. The National Institute for Occupational Safety and Health (NIOSH) is studying this problem, but results of that study are not yet available (11:80-82).

The problem of emanations from word processing equipment and computer terminals is clearly recognized by the Air Force in the TEMPEST communications security program. If a link between VDT equipment and miscarriages is established, the implications for the Air Force would be significant. The administrative and communications career fields, which are currently regarded as relatively "safe", would have to be reevaluated in light of the new information.

The Pregnancy Workplace Interview only addresses first-hand exposure to various hazards. In fact, there may be equally damaging hazards associated with second-hand exposure. Through second-hand exposure "men also risk exposing their pregnant wives to workplace hazards by unwittingly bringing home substances on their clothes or shoes" (10:26).

It may not be possible to completely eliminate all environmental risks associated with pregnancy. "If all industries with hazardous workplaces developed stringent fetal protection policies, as many as 20,000,000 jobs would be closed to women" (10:22). The interview technique established by AFR 160-12 does provide a reasonable treatment which links known hazards to individual workplaces in a manner which will reduce, if not entirely eliminate, risks associated with pregnancy.

ASSIGNMENT AND UTILIZATION POLICY

After the medical community confirms the diagnosis of pregnancy, the Air Force's personnel system enters the picture. Current Air Force personnel policy, as outlined in AFR 36-20, Officer Assignments, views pregnancy as "a temporary physical limitation" (17:3). As such, both assignment and utilization policies reflect the orientation to a temporary situation. It serves as the basis for deferment of assignment for both female officers (AFR 36-20) and female airmen (AFR 39-11) who are pregnant. Assignment policy lies outside the scope of this report and will not be addressed in detail. Rather, it is the policy which governs the utilization of pregnant women that will be addressed.

Utilization restrictions are imposed by the issuance of an Air Force Form 422, Physical Profile Serial Report, by a physician. That document is commonly known as both a "profile" and "physical profile." The guidance for issuing the profile is contained in AF Regulation 160-12, Professional Policies and Procedure. That regulation advises physicians:

Do not categorically exclude pregnant females from all duties solely because of the potential for exposure to occupational hazard or toxic substances. Some restrictions may be appropriate, but complete excusal of the pregnant member from all military duties before delivery

is seldom indicated. Determine duty restrictions, if required, based on objective medical reasons related to the work environment (19:13).

Medical authorities send a copy of the Air Force Form 422 confirming the pregnancy to the woman's servicing Consolidated Base Personnel Office. That form indicates that the woman is pregnant and is restricted from full duties for the term of her pregnancy. It also includes a six week postpartum convalescent period for the mother to recover. Since the delivery date can only be estimated, the termination date on the profile essentially becomes a suspense date within the personnel system. Since the administrative treatment of the postpartum period is identical to the treatment of the actual pregnancy, no further distinction will be made between the two periods in the balance of this report. Based on the profile report, the personnel specialists enter an Assignment Availability Code 81 into the personnel computer system. This code is used only to reflect assignment limitations attributable to pregnancy, and restricts the member from normal reassignment during the period of pregnancy.

Researchers Martin Binkin and Shirley Bach, in their book Women and the Military, assert "medical data do not support the belief that work is likely to cause problems in pregnancy and childbirth" (1:83). They also observe "in industrial jobs requiring heavier work (than sedentary jobs)...some penalty in effectiveness could reasonably be associated with pregnancy." Air Force Manual 35-1, Military Personnel Classification Policy, states that "change in profile alone does not disqualify a member for continued duty in the career field ladder" (16:33). It does, however, provide latitude to change/disqualify a member based on the recommendation of medical authorities. In this respect, current Air Force policy is consistent with the recommendations of Binkin and Bach.

HEALTH RECORD	CHRONOLOGICAL RECORD OF MEDICAL CARE	
DATE	SYMPTOMS, DIAGNOSIS, TREATMENT, TREATING ORGANIZATION (Sign each entry)	
	PREGNANCY WORKPLACE INTERVIEW	
	NAME:	RANK:
	AFSC:	DUTY TITLE:
	SHOP:	ORGANIZATION: DATE:
	1. Air Force Employment Data:	
	a. Individual's description of job, including any duties involving the use of radioactive materials, x-ray or nonionizing radiation (such as radar, microwave, communication electronics, etc.), and what tools, chemicals, and types of equipment are used.	
	b. Were you issued a TLD (Thermal Luminescent Dosimeter)?	
	c. To the best of your knowledge do any shops located in your immediate work area use radioactive materials or x-ray?	
	d. Safety equipment required in the course of your duties?	
	Respirator	If so, what kind? How often used?
	Garments	If so, what kind? How often used?
	Belts/Harness	
	Other:	
	e. Does your job involve lifting, bending, pulling, climbing, or working at heights? If yes, describe amounts lifted, etc.	
	f. Does your job require good balance and coordination to avoid risk of falling?	

PATIENT'S IDENTIFICATION (Use this space for Mechanical Imprints)

RECORDS MAINTAINED AT:		
PATIENT'S NAME (Last, First, Middle Initial)		SEX
RELATIONSHIP TO SPONSOR	STATUS	RANK/GRADE
SPONSOR'S NAME		ORGANIZATION
DEPT./SERVICE	UN/IDENTIFICATION NO.	DATE OF BIRTH

AFMSC/SGPC Overprint

Pregnancy Workplace Interview Overprint

STANDARD FORM 600 (REV. 5-64)

(Figure 1)
(19:15)

DATE	SYMPTOMS, DIAGNOSIS, TREATMENT, TREATING ORGANIZATION (Sign each entry)		
	PREGNANCY WORKPLACE INTERVIEW (Cont'd)		
	g. Do you work indoors or outdoors? In both summer and winter? If		
	outdoors, is there a designated temperature at which all workers must return		
	indoors? If yes, what for Summer? Winter?		
	h. Number of hours for average duty day?		
	i. Have you ever had an illness related either to your military or any		
	civilian occupation? If yes, what was it?		
	To what were you exposed? When?		
	j. Additional duties assigned?		
	k. Supervisor's description of job (Telephonic--Reconcile any		
	discrepancies between patient's and supervisor's description.)		
	2. (EH Interviewer should gain information for this item either from review		
	of the shop folder or Bioenvironmental Engineering Section evaluation of the		
	interviewee's workplace.) This individual has exposure to: Airborne dusts,		
	vapors, fumes including welding). If yes, what? How often?		
	Airborne Concentration?		
	Chemicals?	If yes, what?	How often?
	Airborne Concentration?		
	Other?	If yes, what?	How often?
	Airborne Concentration?		
	Infectious Materials?	If yes, what?	How often?
	Signature of Patient:		
	Signature of Interviewer:		

Pregnancy Workplace Interview Overprint Continued

(Figure 2)
(19:16)

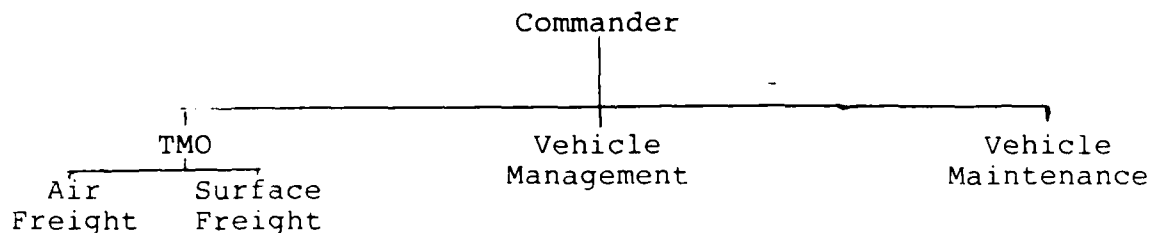
Chapter Three

THE FIELD TRANSPORTATION UNIT

With the historical background, assignment and utilization policy, and medical considerations as background, the real question of the policy impact revolves around what it does to a unit in the field. To evaluate this impact, the Transportation career field, a non-traditional work area, was selected. With two minor exceptions, the entire career field is open to women. The exceptions are in the transportation flights of Red Horse squadrons, approximately 130 positions world-wide which are filled by AFSC 472XX Vehicle Maintenance personnel, and, second, in elements of Mobile Aerial Ports. This includes the Combat Mobility branch of strategic aerial ports which are to be employed at forward tactical airheads. This category involves fewer than 100 positions in AFSC 605XX, Air Transportation (20:3-4).

The typical structure of a Transportation unit is reflected below in Figure 3.

TRANSPORTATION UNIT ORGANIZATION



(Figure 3)

Each of the three branches, Traffic Management (TMO), Vehicle Management (motor pool), and Vehicle Maintenance has a distinctly different work environment. Each branch also has factors which represent a potential hazard to pregnant airmen.

In Traffic Management, both AFSCs 602XX, Traffic Management, and AFSC 605XX, Air Transportation, specialists are used. The Packaging and Preservation, or Packing and Crating, section has one primary hazard. The hazard is the foam-in-place equipment.

Through a chemical and mechanical process, a liquid foam slurry is injected into boxes to surround sensitive electronic or mechanical equipment being prepared for shipment. This liquid hardens into a foam envelope around the equipment and protects it from breakage and damage in transit. During that process, toxic chemical fumes are released into the atmosphere. There are three different systems in the field today and the actual toxins released and their relative concentrations vary by system. Logistics problems have made these systems difficult to maintain, and they may be eliminated or replaced in the future. Normal duties in both surface transportation and air freight sections occasionally involve heavy physical labor associated with cargo handling. This includes climbing on either trucks or aircraft to supervise loading and unloading operations. Pregnant women working in these areas would encounter problems performing certain of these tasks, but could be reassigned to other duties within their AFSC and work area.

In Vehicle Management, or the Motor Pool, airmen with AFSC 603XX are assigned as vehicle operators/dispatchers. The primary obstacles encountered here are vehicle seat belts and the moderate to heavy lifting requirements associated with the day-to-day fleet operations. The lifting requirement is particularly stringent in the heavy equipment section; they operate truck tractors, wreckers, and similar heavy equipment. Daily duties include performing vehicle operator care, a task which may include changing tires, a task which represents a potential lifting hazard. Pregnant women in the AFSC can be reassigned to overhead duties such as dispatch or driver's records and still perform duties in their normal AFSC.

Vehicle Maintenance represents perhaps the most significant problem for pregnant women. This shop uses airmen in AFSC 47XXX to maintain and repair vehicles. The shop itself is full of potential hazards. These range from concentrations of carbon monoxide, battery acid, fuels, solvents, welding gas fumes to paint vapors. Duties in this shop normally include lifting of both repair tools and automotive parts, although mechanical equipment is available to assist with the heavier lifting. The nature of the work environment in two work centers in particular, Allied Trades (Body Shop), and Refueling Maintenance, would require immediate transfer of pregnant women. The balance of the shop area, because of the concentrations of the various hazards discussed above, would have to be closely evaluated.

In these four AFSC groupings, the populations reflected in Figure 4 existed as of 15 January 1986.

TRANSPORTATION ENLISTED POPULATION

AFSC	AUTHORIZED	ASSIGNED	MALES		FEMALE	
			#	%	#	%
472XX	5577	5911	5684	96.2	227	3.8
602XO	1132	1168	813	69.6	355	30.4
603XO	5129	5178	4640	89.6	538	10.4
605XO	1395	1284	854	66.5	430	33.5
TOTAL	13233	13541	11991	88.6	1550	11.4

(Figure 4)
(22:--)

The 11.4 percent of women assigned to the career field exactly equates to the 1984 Air Force percentage of women in the enlisted population (20:6-3). All "pure" transportation AFSCs reflected above are designated critical AFSCs in the UNITREP reporting system discussed later in this report. This excludes administrative support personnel (18:3-2).

Of the women in the transportation career field, the following number had established Assignment Action Code 81 (pregnancy) as of 15 January 1986 (Figure 5):

PREGNANT TRANSPORTATION AIRMEN

AFSC	# WOMEN ASSIGNED	# WOMEN PREGNANT	PERCENT PREGNANT
472XX	227	10	4.4
602XO	355	30	8.4
603XO	538	28	5.2
605XO	430	39	9.1
TOTAL	1550	107	6.9

(Figure 5)
(22:--)

This equates to a pregnancy rate of 0.069 for each woman assigned. This rate is higher than the Air Force average and reflects the relative youth of the population of enlisted women in the career field. The female Transportation officer corps was also reviewed, but it is too small (130 total) to reflect a valid statistical population.

THE UNITREP MODEL

When studying public administration, an early distinction is made about the nature of services provided in the public and private sectors. In the private sector, a businessman can readily quantify the number of cars sold or the number of gallons of gasoline pumped. In the public sector, a military administrator can not provide a similar accounting of how much defense was provided or whether the quota of deterrence was met for the day. The nature of the service defies quantification. A similar problem exists in trying to rate readiness with a mechanical system.

The Joint Chiefs of Staff (JCS) Publication 1 defines readiness as "The ability of forces, units, weapon systems, or equipment to deliver the outputs for which they were designed (includes the ability to deploy and employ without unacceptable delays)" (21:107). The JCS has a complex series of 68 reports to help keep abreast of the military's posture to wage and pursue war. One of these reports, the Unit Status and Identity Report (UNITREP), is the current framework for evaluating and reporting unit readiness for all services.

Within the Air Force, the UNITREP program is outlined and implemented by Air Force Regulation 55-15. The following summary of the reporting program is gleaned from that regulation. UNITREP evaluates each tasked unit into two basic areas, personnel and equipment. Within each of those areas, four factors are evaluated: number authorized, number assigned, number critical to the task, and the number available. These factors are compared against a designed operating capability (DOC), a classified document prepared for each unit. The DOC statement reflects the units current warplan tasking, outlines mission requirements, and response time frames.

A combination of objective data entries and subjective evaluations are required to prepare the report. Straight numbers are blended with judgements as equipment and people not currently available, but which/who would become available within the DOC response time, are manually moved from the "not available" column to the "available" column. The resulting numbers are entered into a complicated set of computations to arrive at an overall "C-rating," or readiness category.

There are five readiness categories described in Air Force Regulation 55-15. They are:

C-1, Fully Combat Ready. A unit possesses its prescribed level of wartime resources and is trained so that it is capable of performing the wartime mission for which it is organized, designed, or tasked.

C-2, Substantially Combat Ready. A unit has only minor deficiencies in its prescribed levels of wartime resources or training that limit its capability to perform the wartime mission for which it is organized, designed or tasked.

C-3, Marginally Combat Ready. A unit has major deficiencies in prescribed wartime resources or training that limit its capability to perform the wartime mission for which it is organized, designed or tasked.

C-4, Not Combat Ready. A unit has major deficiencies in prescribed wartime resources or training and cannot effectively perform the wartime mission for which it is organized, designed, or tasked.

C-5, Service Programmed, Not Combat Ready. This category is reserved for units undergoing weapon systems conversion, being activated, deactivated, or reactivated (18:8).

The C-5 category, while listed, is usually assigned for reasons beyond the direct control of the reporting unit.

While equipment availability and readiness are also evaluated under UNITREP, they have little bearing on this paper and will not be addressed in any further detail. The pregnancy factor comes into the equation in preparing the personnel ratings. Both total personnel and critical personnel availability are considered in that process. "Total personnel is defined as the percentage of the units' 'total' authorized personnel who are available within the DOC response time" (18:12). "Critical personnel" is the percentage of authorized personnel with critical AFSCs who are available within the DOC response time (18:12). Subordinate C-ratings are assigned to both areas following the chart at Figure 6 on the following page.

C-RATINGS

<u>TOTAL PERSONNEL</u>	<u>CRITICAL PERSONNEL</u>	<u>C-RATING</u>
90-100%	85-100%	C-1
80-89%	75-84%	C-2
70-79%	65-74%	C-3
0-69%	0-64%	C-4

(Figure 6)
(18:16)

The two resulting ratings are compared in the mechanical format and the lower of the two C-ratings becomes the reported personnel C-rating. This process is once again open to subjective evaluation and provides latitude for an overriding "commander's judgement" upgrade. This action, if taken, must be addressed in the narrative field of the report. All units not reporting C-1 must provide comments outlining the problems which prevent them from achieving fully combat ready status.

While there is latitude for fluctuation on the various components of the UNITREP model, no actual change in combat readiness is realized until an actual change in C-rating occurs. The model is complex, and it can be skewed by a number of factors, including personnel not available for reason of pregnancy. It is also the current framework for evaluating readiness within the Air Force.

Within this framework, a change of C-rating must occur for the unit to register an impact on its readiness. For purposes of this evaluation, a change of UNITREP C-rating would be required for pregnancy to result in adverse unit impact. It should be noted that Congressman Les Aspin, among others, has criticized the system.

To the popular mind, the readiness statistics measure war-fighting capability, but they are in fact peacetime measures. George Patton never used C-ratings. When a unit had only 50 percent of its manpower (making it not combat capable by today's definition) he wouldn't necessarily dismiss it from the force, but he would not expect it to hold as much of the front-line as a full-strength unit (6:23).

Approaches reflecting this philosophy have been taken with the Fully Mission Capable and Partially Mission Capable ratings applied to aircraft in a parallel situation.

PUTTING IT TOGETHER

Using the current career field population profiles and a review of actual unit manning and authorizations for twelve Transportation units, a UNITREP model of C-ratings was constructed using pregnancy as the only factor affecting personnel availability. In the twelve units, a change of C-rating was realized only when all assigned women were considered to be pregnant and not available. No unit experienced a change in C-rating based on actual pregnancies.

While the current Air Force pregnancy rate of 4 percent is an across-the-board figure and does not reflect an ideal distribution, the probability of all assigned women being pregnant at the same time is statistically insignificant for units with more than four women, and remote (.0016) for units with as few as two women. Even using the actual data and higher rate in the Transportation career field, simultaneous pregnancy of two women in the unit is statistically low (.0048).

While in this exercise, pregnancy alone did not result in a change of C-rating under normal conditions, this is an artificial situation. In an actual unit, even one woman not available due to pregnancy, when taken together with the other factors affecting personnel availability (leave, hospitalization, physical profile, temporary duty, augmentation tasking, etc.), can easily be the difference between a C-1 and a C-2 rating.

Apart from the effect on unit readiness, the problem of sustaining day-to-day operations in peacetime with a less capable workforce remains. While units consistently work with reduced capacity due to leave, temporary duty, etc., that does not mean they experience no impact because of the reduced capability. That impact is felt most severely in small shops.

For example, in AFSC 472X3, Allied Trades (Body Shop), 4.7 percent of the total Air Force workforce is female. These work sections are typically small 3-4 man shops. The work area is a high risk area and would require reassignment of the pregnant airman. For that work section, the actual loss in capability represented by the loss of one person is 25-33 percent, even though the impact on the overall units' C-rating is negligible. While larger shops are statistically prone to experience a higher number of pregnancies, the impact is lower. One person lost from that larger shop represents a smaller percentage of the overall shop capability.

In summary, while pregnancy in itself is rarely responsible for a change in C-rating, it may contribute to a lower readiness posture when taken together with other factors. Further, given the nature of the small subordinate workcenters which build the total Transportation unit, each pregnant airman removed from normal duties for

the duration of her pregnancy may represent a significant degradation of the workcenter's capability.

Chapter Four

IMPACT OF PREGNANCY ON TRAINING

Despite an exhaustive search of available information, no data was found to correlate the impact of pregnancy to the training dollar investment. Discussions with Air Training Command personnel indicated that historical data reflecting the numbers of male and female technical training graduates did exist, but that no follow-on data were available which could be used in this effort. Such data is critical in identifying the cost of pregnancy-related losses of training. In the absence of definitive data, some indicators do exist. Hoiberg and Thomas found that female attrition prior to completion of service obligation was higher than the male rate. This is a factor which would amortize the training dollars invested at a less favorable rate for women than for men (9:24). Stated simply, the women tend to provide less return on the training dollar than do men, primarily due to accelerated attrition rates.

Hoiberg and Thomas, while recognizing this trend, soften it's impact. While "attrition among women was somewhat higher than among men, the lower cost of their [women's] recruitment offset any loss this difference represented" (9:24). Neither Binkin and Bach nor Hoiberg and Thomas, the authors of the two most comprehensive studies of the economics of introduction of females into the military, treated training in sufficient detail to draw any convincing conclusions regarding the impact of pregnancy on training.

Rather than examining the training costs incurred, it may be more appropriate to examine the relationship between training costs and pregnancy from a cost avoidance approach. In a recent article for Ladycom magazine, author Carol Ann Dowsett quotes Patti Turner, a spokeswoman for the Air Force Surgeon General's Office, on the general subject. Turner suggested that the policy to retain pregnant women was driven as much by economics as by legal or humanitarian considerations. Her observation in support of the current pregnancy policy was "The Air Force has invested too much time and money in them [the pregnant airmen] to let them go" (7:35). By holding to more liberal pregnancy policy, the military in effect "cuts its losses" on the training investment.

MANPOWER IMPLICATIONS

In their rebuttal to the House Armed Services Committee (HASC), the Air Force Special Study Team presented some interesting arguments. Those arguments included the following analysis on non-availability time for both male and female airmen. That analysis is reproduced, in part, in Figure 7.

SUMMARY OF NON-AVAILABILITY TIME
FOR MALE AND FEMALE AIRMEN

<u>Category</u>	<u>Male</u>	<u>Female</u>
Medical:		
Non-Pregnancy Related	2.57	4.12
Pregnancy Related	0	1.66
Leave	9.72	9.80
Permanent Change of Station Related	1.69	1.28
Organizational Duties	3.66	3.37
Education and Training	4.46	4.40
Other	<u>.38</u>	<u>.26</u>
TOTAL *	22.49	24.89

* May not add due to rounding

Figures are expressed in hours per month

(Figure 7)
(20:6-3)

Extrapolating from the 11.4 percent of the Air Force that are female enlisted members and using manpower additive factors to compensate for the effect of pregnancy alone, the Air Force Special Study Team calculated the following increase in manpower positions would be required to compensate for this difference. The resulting figures reflect an Air Force-wide impact and are reflected in Figure 8.

INCREASED MANPOWER REQUIRED DUE TO PREGNANCY

<u>Percent Enlisted Women in the Air Force</u>	<u>Increased Manpower Requirements</u>
0	
11.4	382
15.0	503
17.7	595
20.2	677

(Figure 8)
(20:6-3)

The numbers in Figure 8 are derived in comparison to an all male force and are calculated based on assumed percentages of women in the Air Force. No specific comment was included in the Air Force Special Study Team's recommendations regarding how these increased manpower requirements would be treated. References to manpower additive factors suggest that a manpower additive factor would be incorporated into unit manning standards used by the Air Force manpower community to calculate authorized unit strengths. The effect of this approach is to "credit" each unit in the Air Force with a mathematically-weighted factor to be used in computing their authorized manpower. This factor, based on the population of women in the career field, would be applied regardless of the actual unit population of women (20:6-3).

FUTURE TRENDS

The number of women in the Air Force has grown from 1.9 percent of the total number of military personnel in 1972 to the 1984 figure of 11.4 percent (15:29). Congressional pressure continues to urge an increase in the number and percentage of women in the armed forces. The Air Force, in particular, was the focus of recent HASC efforts in that direction. In 1984, attempting to increase the number of male volunteers for the U.S. Army, the HASC postulated that if the Air Force were to accept more women than it (then) currently allowed, those men who found themselves displaced by women would enlist in the Army. This would tend to bolster the Army's lagging recruitment rates. The HASC proposed a rider to the Fiscal Year 1985 Defense Authorization Bill which mandated an increase of women in the Air Force from 14 to 22 percent. The action was rebutted by the Air Force, but an intermediate goal of 19 percent women was adopted (5:6).

While the interim goal is lower than originally imposed, it is clear that more women will enter the Air Force in the future. This also means that more women (numerically) will be pregnant on active duty. The women on active duty today are a young force. Ninety-seven percent of women in the service today have less than 10 years service and about three-quarters of them have under five years service (15:30).

Since the Air Force primarily acquires personnel through initial enlistment or initial commissioning, the influx of new women will be at the low end of the age spectrum and may increase the current pregnancy rate. The Air Force's current 4 percent overall pregnancy rate is already well below that of the other services (10 percent for the Army, 11 percent for the Navy) and may increase if the Air Force is flooded with young women of prime child-bearing age. Hoiberg and Thomas predict women's hospitalization and attrition costs, particularly those associated with pregnancy and parenthood, will probably decrease as more women choose to remain in the service during and after their pregnancies and into second and subsequent enlistments (9:25).

Whether the political pressure will continue or the pregnancy rate will remain constant, increase, or decrease is impossible to accurately predict at this point. The implications of both the data and the political trends voiced by the HASC suggest that the pregnancy "problem" is likely to continue at its present rate, if not some higher rate. Air Force management must be prepared to deal with active duty pregnancies into the foreseeable future.

Chapter Five

CONCLUSIONS AND RECOMMENDATIONS

In 1978, the final report of the Army Administration Center addressed possible limitations of women in terms of physical characteristics. An excerpt from their final report stated "The issue of pregnancy is perceived by the Army in the field as the greatest impediment to the full integration of women in the Army" (3:193). Indeed, that same attitude of skepticism on the ability of the military to overcome the "pregnancy problem" prevailed throughout the literature reviewed in the preparation of this paper.

Doctor (Colonel) Thomas Klein, Chief of Obstetrics and Gynecological Services at Walter Reed Army Medical Center, believes "There is very little doubt that the successful outcome of a pregnancy depends, at least in part, on the patient's prenatal care" (14:23). An established program of prenatal evaluation, taken together with the physical profile, attempts to reduce the controllable environmental risks for the pregnant Air Force woman.

Through an examination of the UNITREP model, the impact of pregnancy was reviewed. In the UNITREP context, no degradation of unit readiness resulted from pregnancy taken alone, but, when taken in concert with other factors affecting availability of personnel, pregnancy did contribute to higher rates of non-availability. In actual units, the impact of the pregnant airman was evaluated on a micro scale. A potentially significant capability degradation was noted, especially in small units.

While the current regulatory apparatus in the Air Force meets the requirements of both the service and the pregnant member, there is room for improvement. Some suggested improvements follow.

First, pregnant soldiers at Fort Benning participate in a "Profile Physical Training Program" under the direct medical supervision of a physician. This program is based on studies by Doctor Ralph Hale, School of Medicine at University of Hawaii, and Doctor Kenneth Cooper, an acknowledged expert in the field of exercise physiology. The benefits of this program are three-fold. It helps keep the woman in shape, eases the delivery and improves the health of the baby, and it facilitates return

to shape after delivery. It also has the spin-off benefit on troop morale when the pregnant woman is seen to be pulling her weight (7:22). Such a program, if instituted in the Air Force could reasonably be expected to produce the same benefits.

Second, almost half of the pregnancy-related hospitalizations, based on 1975 Navy data, were for abortions. Since October 1978, abortions may no longer be performed in military hospitals because of a court ruling forbidding expenditure of federal funds for elective abortions (9:24). This ban has been interpreted to include abortions previously funded under the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) medical program. While not debating the sensitive moral aspects associated with the abortion issue, the impact of pregnant airmen on active duty could be reduced by a restoration of the abortion option in military and military-sponsored hospitals and hospital programs.

Third, the lack of data correlating the more liberal Air Force pregnancy policy to training costs precludes a comprehensive study of the true cost of pregnancy to the Air Force. This area should be considered for further study.

Fourth, in their report, Analysis of the Effects of Varying Male and Female Force Levels, the Air Force Special Study Team identified an increased manpower requirement associated with pregnancy (20:6-3). In order to absorb the impact of pregnancies in the military work force, development of a manpower additive factor tied to the actual population of women in the Air Force and specific career fields is an absolute necessity.

Commanders and supervisors must be aware of the twofold responsibility they have regarding pregnancies. They must insure that the pregnant woman continues to contribute meaningfully to the Air Force mission while they must also respect the physical limitations imposed on the woman by her pregnancy. The supervisors must insure that the pregnant airman is not subjected to any undue hazard which might complicate or endanger her pregnancy. This dual responsibility can be fulfilled, in part, by active and honest participation in the Pregnancy Workplace Interview. This serves to insure that the full range of known hazards which might affect the woman during this critical time is addressed. It also insulates the supervisor against possible abuse of the pregnancy as an excuse not to perform unpleasant tasks which are within the pregnant airman's physical capabilities and the pregnancy-imposed limitations.

Consistent with the medical views on the importance of prenatal care, supervisors need to encourage the pregnant airman to attend this training (offered through the servicing medical facility) and stress the importance of adhering to the health restrictions to care for both herself and her baby.

Unless the woman has applied for discharge, she will return to work without restrictions at the end of the postpartum convalescent leave. Care needs to be taken that she can and will be utilized upon her return. While work-arounds may be required during the pregnancy, the pregnant female needs to remain current in the duties associated with her AFSC. Pregnancy does not relieve the supervisor of any responsibility to keep the airman's training current, and any relaxation of standards may serve as a poor example for male coworkers.

Finally, on a human level, communication between the woman and her supervisor, as well as the local medical staff, is critical to insure the health of the unborn child (12:12). A woman does not cease to be a military member simply because she is pregnant. She should continue to be treated appropriately. Two suggestions in this regard are offered by a Marine First Lieutenant based on her experience with an active duty pregnancy. First, "What I recommend is not special treatment for pregnant Marines, but an effort to maintain as near a normal atmosphere as possible" (13:20). Second, "Don't assume performance is linked to pregnancy. If she is doing a good job, commend her for it without adding 'in spite of being pregnant.' If her performance is failing, don't assume its because she's pregnant..." (13:20).

From this study, it can be concluded that pregnancy of active duty women does result in some degradation of unit capability, but the effect is not by itself, sufficient to result in a significant degradation of the units' combat readiness. While challenges do exist with pregnancy in the active duty force, they are manageable at the current force levels and can be met within the framework of our current organization and regulations. The Air Force has a long history of implementing policies which are responses to changed social values and norms (8:241). The current policy toward pregnancy is one of those, and it can be accommodated without impacting the Air Force's ability to defend our nation.

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