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Because pregnancy accounts for a large proportion of the attrition among enlisted Marine Corps women, an investigation was conducted of the effects of traditional family/career orientation, feelings of isolation, and feelings of dissatisfaction with the Marine Corps on incidence of pregnancy and pregnancy attrition among these women. The variables were measured, along with current pregnancy status, by means of a survey of 610 first-term enlisted women. Follow-up data on attrition status and number of dependents were collected 18 months later from Marine Corps records. Traditional sex role orientation was a predictor of both pregnancy and attrition, although it was useful for predicting pregnancy among single women only. Women who became pregnant and subsequently attrited were less committed to a Marine Corps career than were those who became pregnant and remained in the Marines, even when commitment was measured prior to the pregnancy. Neither feelings of isolation nor dissatisfaction with the Marine Corps were predictors of pregnancy or pregnancy attrition, although women who were pregnant at the time of the survey had more of these feelings than nonpregnant women.

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PREDICTING PREGNANCY AND PREGNANCY ATTRITION IN FIRST-TERM MARINE CORPS WOMEN

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FOREWORD

This research was conducted within work unit CF521-080-101-04.23: Assessment of First-Term Attrition of Women Marines. Its purpose is to identify factors related to the attrition of Marine Corps women and to develop recommendations to address the problems. The research effort was conducted in three phases. The first phase involved examination of existing data to identify predictors of attrition. The second phase compared work experiences of attrites and nonattrites. The third phase will develop a counter-attrition program.

This is the third in a series of reports documenting the research. The first, TR 83-22, described results from the first phase. The second, TR 84-57, presented initial findings from the second phase, describing the backgrounds and experiences of Marine Corps women. This report presents findings from the second phase related to pregnancy and pregnancy attrition. A subsequent report will present findings related to all types of attrition.

Portions of the research were conducted while the principal author was a participant in the Office of Naval Research/American Society for Engineering Education Faculty Summer Fellowship Program. Another portion was funded through Army Research Office scientific contract DAAG 29-81-D-0100 (0770) with Battelle Research Institute.

The assistance of Major Michael Patrow and Captain David Linnebur of Headquarters, U.S. Marine Corps (MPI-20), project officers for the research, is gratefully acknowledged.

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SUMMARY

Problem

Attrition due to pregnancy accounts for the major difference between post-recruit training attrition rates for enlisted men and women in the U.S. Marine Corps (USMC), with approximately one in five first-term female enlistments terminated by a pregnancy discharge. Theory and research suggest that lack of social adjustment, low level of career satisfaction, and feelings of isolation and loneliness may predispose young women to unplanned pregnancy. These factors may make first-term Marine Corps women particularly vulnerable to unplanned pregnancy and subsequent attrition.

Objective

This research was conducted to determine whether traditional family/career orientation, feelings of isolation, and dissatisfaction with the USMC are useful predictors of pregnancy and pregnancy attrition.

Method

Data on traditional family/career orientation, feelings of isolation, pregnancy status, and dissatisfaction with the Marine Corps were collected from 610 first-term enlisted women as part of a larger attrition survey. Follow-up data on the attrition status and number of dependents of these women were collected 18 months later from the Marine Corps Historical Master File. Exploratory factor analyses and internal reliability analyses were used to reduce the 93 items potentially measuring these traits to 17 scales which measured aspects of traditionality, isolation, and dissatisfaction with the Marine Corps. These scales were then used in a multivariate analysis of variance to identify differences between pregnant and non-pregnant women at the time of the survey and to predict later pregnancy and pregnancy attrition.

Findings

1. Women who were pregnant at the time of the survey had more traditional sex role orientations, felt more isolated, and were less satisfied with the Marine Corps than were women who were not pregnant at that time.

2. Women who attrited from the Marine Corps independent of pregnancy had more traditional sex role orientations, that is, they were more likely to value family over career than did women who remained.

3. Single women who became pregnant independent of attrition had more traditional sex role orientations than did non-pregnant single women. Traditional sex role orientation was not related to pregnancy for married women.

4. Women who attrited when pregnant were less committed to a career outside the home than were those who became pregnant and remained in the USMC, even when these measures were gathered prior to the pregnancy. Thus, the lack of commitment was a preexisting condition, not a result of the pregnancy.

5. Women who attrited because of pregnancy held more traditional values than women who attrited for other reasons, even before they became pregnant. Specifically

they planned to have children earlier and to have more children than did women who attrited for reasons other than pregnancy.

6. The factors associated with attrition differed for married women and single women. Both traditionality and dissatisfaction with the Marine Corps were related to attrition for married women, while only traditionality was related for single women.

Conclusions

1. Women with extremely traditional orientations, that is, those who choose family responsibilities to the exclusion of any other career options, are more likely both to become pregnant and to leave the Marine Corps during their first term than women with less traditional orientations.

2. Because dissatisfaction with the Marine Corps does not predict either pregnancy or attrition following pregnancy, it does not appear to lead a woman to conceive and then use her pregnancy as an excuse to attrite.

3. The major factor that predicts attrition once a Marine Corps woman is pregnant is her perception of her ability to balance the demands of a career with those of a family.

Recommendations

1. Further study of pregnancy among Marine Corps women is needed to understand the impact that traditional career orientation, feelings of isolation, and dissatisfaction with the Marine Corps have on pregnancy and attrition. The sample should include women whose pregnancies end in abortion or miscarriage or who place their children for adoption as well as women who combine motherhood and a Marine Corps career.

2. Further study should explore the differences between pregnancy attrites and women who attrite for other reasons.

3. Women with extremely traditional career orientations should either not be enlisted or should be helped to discover ways of combining family and career goals.

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INTRODUCTION

Problem

The unacceptably high first-term attrition rate for women in the U.S. Marine Corps (USMC) limits the potential of Marine Corps women to ease future military manpower shortages. A recent study of attrition among Marine Corps women has shown that approximately 60 percent of the attrition after recruit training is pregnancy-related, and that pregnancy attrition accounts for the vast majority of the difference between male and female post-recruit training attrition (Royle, 1983). Because the cost of recruiting and maintaining a woman enlistee is lower than that for a man, and because women enlistees are from a high quality talent pool with high school diplomas and relatively high scores on the Armed Services Vocational Aptitude Battery (ASVAB), the antecedents of high attrition among women should be identified so that attrition can be reduced and women's potential to reduce projected personnel shortages can be realized.

Background

Until 1975, women in the Marine Corps who became pregnant faced mandatory discharge. In 1975, the Department of Defense issued a directive to all military services instituting the policy to provide a woman who becomes pregnant the choice of remaining in the service or being given an honorable discharge. Recently, the Department of the Navy curtailed this choice to permit retention of the woman against her wishes if she had received costly training or was in a scarce skill area,[1] although denial of pregnancy discharge requests is extremely rare. Even though one effect of this policy was to decrease the pregnancy attrition rate, pregnancy remains the major reason for attrition among Marine Corps women. Approximately one in five first-term enlistments is terminated by a pregnancy discharge (Royle, 1983).

While a number of studies have described the extent and implications of high pregnancy attrition rates (cf. Olson & Stumpf, 1978; Hoiberg, 1983; Thomas, 1980), only one has addressed the antecedents and correlates of pregnancy attrition. This study (Royle, 1983) examined background variables and Marine Corps experiences of a sample of 6912 enlisted Marine Corps women to identify factors related to different kinds of attrition.

Royle (1983) found that in FY77 and FY78 that: (1) pregnancy accounted for approximately 42 percent of all first-term female attrition from the Marine Corps; (2) approximately 80 percent of these pregnancies occurred during the first 24 months of enlistment; (3) women who leave the Marine Corps due to pregnancy are very similar to women who complete their first enlistments except that they are more likely to be married; and (4) pregnant women who remain in the Marine Corps are more likely to be black, either married or divorced, and in a clerical job than are the pregnant women who leave.

During the past 10 to 15 years, progress has been made in describing the situational and psychological correlates of unplanned pregnancy. Significant correlations have been found between age and use of contraception, frequency of intercourse and use of effective contraception, and the nature of the sexual relationship and use of effective contraception (Foreit & Foreit, 1978; Cvetkovich & Grote, 1983; Fisher, Byrne, Edmunds, Miller,

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[1] Marine Corps Order 5000.12A.

Kelly, & White, 1979). Evidence is also mounting that ineffective contraceptors can be characterized as being unaccepting of their own sexuality (Mosher & Cross, 1971; Gerrard, 1977; Geis & Gerrard, 1984). This research clearly demonstrates that psychological and situational variables interact to make some women more vulnerable to pregnancies than others. Three factors are particularly relevant to women in the Marine Corps: traditional sex role orientation, feelings of isolation, and degree of satisfaction with the Marine Corps.

While the relationship between fertility and traditional sex role orientations is obvious (i.e., traditional women want to marry and have families and value family over career), the relationship between fertility and satisfaction with work and feelings of isolation is less apparent. The relationship between work and pregnancy has been explored by a number of researchers. Hoffman and Nye (1974) summarize the findings:

> Basically the idea is that if women are satisfied with employment they want fewer children and their motivation to practice effective birth control is increased. (p. 81)

Research studies have supported the argument that having a gratifying job is related to lower fertility, while employment per se is not (cf. Tangri, 1972; Scanzoni & McMurry, 1972). Although working women and women who plan to work tend to hold a less traditional notion of sex roles than non-working women (cf. Birnbaum, 1971; Welch, 1979), wide variation in sex role orientation still exists among working women.

A number of authors have also suggested that isolation and loneliness, due to a lack of social adjustment, are responsible for some unplanned pregnancies (Biele, 1971; Friedman, 1973; Greenbaum, 1973). More specifically, a general inability to create or maintain satisfying interpersonal relationships may make a woman more dependent on sexual relationships for meeting her intimacy needs. In a test of this hypothesis, Campbell and Barnlund (1977) compared the interpersonal interaction styles of successful contraceptors with those of women who had had two or more unplanned pregnancies. They found that although both groups revealed fairly extensive and intimate physical contact with "significant others," the effective contraceptors were more competent as communicators and were more prone to self-disclosure on a wide variety of topics. Thus, while their study indicates that effective and ineffective contraceptors have similar patterns of social activity and express and seek similar goals in their social relations, the authors conclude that:

> In the final analysis, it may be that the problem of unplanned pregnancy and unwanted children is, in part, a consequence of failure to maintain adequate communication with significant others. (p. 138)

The current study was designed to explore the possibility that these key variables--traditional sex role orientation, feelings of isolation, and degree of satisfaction with the Marine Corps--would be useful in discriminating pregnant and attriting USMC women from nonpregnant and nonattriting USMC women.

Objective

This study was conducted to determine whether traditional family/career orientation, feelings of isolation, and dissatisfaction with the USMC are useful predictors of pregnancy and attrition.

METHOD

Data Source

The data set used in the current study is part of a survey of 610 first-term enlisted women conducted between February and June of 1982. All of the women in the sample had completed between 9 and 24 months of their first enlistments. The sample was representative of USMC occupational specialties and base locations as well as of demographic variables such as age and race. Further information on the survey sample can be found in Kerce and Royle (1984). Data on the attrition status and number of dependents of these women were collected from the Marine Corps Historical Master File in October, 1983.

Data Reduction and Scale Construction

The 26-page survey included questions about the woman's demographic background, family and career plans, pregnancy status, career with the Marine Corps, her present job, her first Marine Corps job, and her degree of satisfaction with the Marine Corps in general. Questions judged by the authors to be related to feelings of isolation, degree of satisfaction, or traditionality were entered into three exploratory factor analyses as the first step of data reduction and scale construction.

Fifty-five questions judged to be related to satisfaction were included in the exploratory factor analysis of satisfaction variables. This resulted in 11 factors with eigenvalues greater than or equal to 1.00. The variables loading on each of these 11 factors were combined into subscales, and the resulting 11 subscales were again subjected to a factor analysis. This second factor analysis was used to eliminate subscales which did not appear to measure common components of satisfaction. The remaining subscales were subjected to internal reliability checks, employing an a priori criterion of alpha = .70 for determining which subscales would be included in further analyses (see Table 1). Five were identified.

Table 1

Reliability Coefficients for Subscales

Factor	Subscale	Alpha Coefficient
Dissatisfaction	With recreation and educational opportunities	.75
	With ability to do job	.74
	With facilities	.70
	With supervisor	.70
	Nervous symptoms on job	.72
Isolation	Perceived negative attitudes toward women	.70
	Harassment	.75
	Socially excluded	.74
	Cannot talk to women	.71
	Cannot talk to men	.73

A similar process was used for the 30 items judged to be related to feelings of isolation. This resulted in seven factors with eigenvalues greater than 1.00, which were reduced to five meaningful subscales using a second factor analysis and internal reliability checks.

Examination of the exploratory factor analysis of the eight items deemed to be related to traditionality led to the deletion of three items that did not measure aspects of traditionality in common with the other five items; the internal reliability test revealed that the remaining five items should be treated as individual items rather than be combined into subscales. Thus, the use of factor analyses and internal reliability tests resulted in the reduction of the original variable pool to three factors, each represented by five scales.

Design

The first question addressed in this analysis was whether the 89 women who were pregnant at the time of the survey and the 459 who were not pregnant at that time differed on factors of traditionality, feelings of isolation, and degree of dissatisfaction (i.e., Do pregnant Marine Corps women feel more isolated, less satisfied, and have more traditional sex role values than nonpregnant women?). To answer this question, multivariate analyses of variance were used to examine the differences between pregnant and nonpregnant women using the three sets of variables: the Traditionality scales, the Isolation scales, and the Dissatisfaction scales. (While discriminant function analysis would normally be the method of choice, the small sample of pregnant women (n = 89) relative to the total sample made discriminant function analysis inappropriate.)

Once factors were identified that differentiated between women who were pregnant at the time of the survey and women who were not, a number of analyses were directed at determining whether traditionality, feelings of isolation, and degree of dissatisfaction measured early in a woman's enlistment were related to subsequent pregnancy and attrition. The basic format for these analyses was the 2 (Pregnant vs. Nonpregnant) X 2 (Attrite vs. Nonattrite) multivariate analyses of variance design depicted in Figure 1. Women who were pregnant or attriting at the time of the survey were omitted from this analysis.

	Pregnant	Nonpregnant
Attrite	N = 44	N = 40
Nonattrite	N = 18	N = 477
		N = 579

Figure 1. Basic design of analyses for women who were not pregnant or attriting at time of survey.

In this design, analysis of variance was used to determine whether the Traditionality, Isolation, and Dissatisfaction variables differed significantly among the pregnancy and attrition groups, that is, whether these variables could be used to separate the groups. Because the responses used to develop these three constructs were collected prior to either attrition or pregnancy, they could, if significant, be used to predict later attrition or pregnancy, although in a traditional analysis of variance design they are dependent variables.

RESULTS

Are Pregnant Women Different From Nonpregnant Women?

One-way multivariate analyses of variance revealed that women who were pregnant at the time of the survey were significantly less satisfied with the USMC, felt more isolated, and were more traditional than women who were not pregnant at the time of the survey (see Table 2).

Table 2

Mean Scale Scores and Multivariate and Univariate Differences Between Pregnant and Nonpregnant Marine Corps Women

Variable	Pregnant	Nonpregnant	F
Traditionality Scales[a] Multivariate F(4, 541) = 31.30***			
Balancing career and family	3.92	2.83	71.40***
Number of children desired	2.43	2.47	.09
Marriage plans	4.26	3.34	72.15***
Sex role adherence	2.83	2.54	6.10***
Isolation Scales Multivariate F(5, 497) = 2.95**			
Perceived negative attitudes toward Marine Corps women	3.07	2.78	7.39***
Harassment	2.66	2.75	.48
Socially excluded	2.53	2.27	6.20***
Cannot talk to women	2.84	2.74	.74
Cannot talk to men	2.92	2.72	3.15*
Dissatisfaction Scales Multivariate F(5, 526) = 3.39***			
With recreational and educational opportunities	2.86	2.60	8.89***
With ability	2.72	2.55	3.87**
With facilities	2.93	2.69	6.39**
With supervisor	2.62	2.47	6.63***
Nervous symptoms on job	2.78	2.63	3.62*

Note. All scales are based on ratings of 1 to 5, except "dissatisfaction with ability" which is based on a rating of 1 to 7. High scores reflect traditional values, feelings of isolation, and feelings of dissatisfaction.

[a]"Plans to have children soon" scale was omitted from this analysis because one alternative was "I am now pregnant."

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

Examination of the differences between the two groups on the Traditionality scale means indicates that women who were pregnant at the time of the survey were more prone to value family more than career, were more interested in marriage, and, in general, held more traditional sex role orientations. The Isolation scale means revealed that pregnant women perceived more negative attitudes toward women in the Marine Corps than did nonpregnant women, felt excluded socially, and had a slight tendency to report difficulty in talking to men. The pregnant women were also less satisfied with recreational and educational opportunities, with facilities, their supervisors, and their ability to perform their jobs than were the nonpregnant women. In addition, they reported more nervous symptoms on the job than did nonpregnant women, although differences were not significant at the .05 level.

Although the responses of pregnant USMC women to these factors were significantly different from those of nonpregnant women, these differences may be either consequences of pregnancy or antecedents of pregnancy. In other words, the factors that differentiate between pregnant and nonpregnant USMC women may merely represent differences associated with the state of being pregnant or nonpregnant, or they may represent pre-existing characteristics which can be used to predict which women will become pregnant and those who will attrite due to pregnancy.

Antecedents of Attrition

The Traditionality scales were significantly related to attrition independent of pregnancy as can be seen in the summary of the multivariate analyses of variance presented in Table 3 (multivariate $F(5, 439) = 2.25$, $p < .05$). Table 3 also reveals a marginally significant relationship between attrition and early dissatisfaction with the Marine Corps (multivariate $F(5, 458) = 2.13$, $p < .10$).

Examination of the individual Traditionality variables presented in Table 4 reveals that attriting women valued family rather than career. Also, women who attrited had more traditional sex role orientations than nonattrites, although the difference was not significant at the .05 level. Examination of the Dissatisfaction variables reveals that symptoms of nervousness on the job, dissatisfaction with supervisors, and lack of confidence on the job also were related to attrition.

Antecedents of Pregnancy

The Traditionality scales were also significantly related to pregnancy independent of attrition (see Table 3). Examination of the univariate analyses of the Traditionality scores revealed that this was accounted for by differences in the total number of children desired, plans to have children soon, and plans for marriage. A summary of the differences between those women who became pregnant and those who did not is found in Table 5.

Differences in the Antecedents of Pregnancy and Attrition for Married and Single Women

The significant attrition by pregnancy interaction displayed in Table 3 (Traditionality multivariate $F(5, 439) = 3.35$, $p < .01$) was primarily accounted for by a significant univariate effect for the variable that measures marital status and future plans to marry ($F(5, 439) = 10.07$, $p < .01$). This finding and the significant difference in pregnancy attrition between married and single women (Royle, 1983) suggested that examination of pregnancy and attrition separately for married and single women would be useful. To

Table 3

Multivariate Analyses of Variance of Traditionality, Isolation, and Dissatisfaction Scales by Pregnancy and Attrition Status

Source	df	F
Traditionality Scales		
Attrition effect	5, 439	2.25**
Pregnancy effect		4.01***
Attrition X pregnancy		3.35***
Isolation Scales		
Attrition effect	5, 438	.65
Pregnancy effect		.75
Attrition X pregnancy		.56
Dissatisfaction Scales		
Attrition effect	5, 458	2.13*
Pregnancy effect		1.85*
Attrition X pregnancy		.57

* $p < .10$
** $p < .05$
*** $p < .01$

Table 4

Mean Scale Scores for Factors Associated with Attrition

Scale	Attrite	Nonattrite	F
Traditionality Scales			
Balancing career and family	3.23	2.75	5.94**
Number of children desired	2.59	2.45	.37
Plans to have children soon	2.25	2.07	.18
Marriage plans	3.56	3.30	.13
Sex role adherence	2.74	2.49	3.19*
Isolation Scales			
Perceived negative attitudes toward women	2.88	2.76	.82
Harassment	2.82	2.73	1.30
Socially excluded	2.39	2.26	.11
Cannot talk to women	3.01	2.69	2.42
Cannot talk to men	2.95	2.70	1.82
Dissatisfaction Scales			
With recreational and educational opportunities	2.66	2.60	1.70
With ability to do job	2.70	2.55	6.08**
With facilities	2.61	2.70	.02
With supervisor	2.65	2.44	4.02**
Nervous symptoms on job	2.87	2.58	4.19**

Note. All scales are based on ratings of 1 to 5, except "dissatisfaction with ability" which is based on a rating of 1 to 7. High scores reflect traditional values, feelings of isolation, and feelings of dissatisfaction.

*$p < .10$
**$p < .05$

Table 5

Mean Scale Scores for Factors Associated with Pregnancy

Scale	Pregnant	Nonpregnant	F
Traditionality Scales			
Balancing career and family	3.12	2.79	.07
Number of children desired	2.82	2.42	5.25**
Plans to have children soon	2.45	2.04	11.47***
Marriage plans	3.72	3.29	6.65***
Sex role adherence	2.63	2.51	.18
Isolation Scales			
Perceived negative attitudes toward women	2.84	2.77	.01
Harassment	2.71	2.75	.93
Socially excluded	2.45	2.25	1.36
Cannot talk to women	3.01	2.70	1.08
Cannot talk to men	2.94	2.71	.51
Dissatisfaction Scales			
With recreational and educational opportunities	2.55	2.62	1.84
With ability to do job	2.54	2.58	3.19*
With facilities	2.54	2.72	1.81
With supervisor	2.65	2.45	1.59
Nervous symptoms on job	2.87	2.58	.80

Note. All scales are based on ratings of 1 to 5, except "dissatisfaction with ability" which is based on a rating of 1 to 7. High scores reflect traditional values, feelings of isolation, and feelings of dissatisfaction.

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

investigate the possibility that the factors related to pregnancy and attrition for married Marine Corps women may be different from the factors related to pregnancy and attrition for single Marine Corps women, separate pregnancy by attrition multivariate analyses of variance were conducted on the married and single women in the sample.

Traditionality was related to pregnancy independent of attrition for single women (multivariate $F(4, 376) = 9.57$, $p < .01$), but not for married women (Table 6). Single women who became pregnant desired more children, planned to have children sooner, and were more traditional in their sex role orientation than were single women who did not become pregnant.

Attrition independent of pregnancy was related to Traditionality variables for both married women ($F(4, 100) = 2.76$, $p < .05$) and single women ($F(4, 376) = 2.82$, $p < .05$). However, the specific variables that account for these effects were different for the two groups. Among single women, only adherence to traditional sex role values was significantly different between women who attrited and those who remained. However, among married women, those who attrited desired more children and valued family more than those who remained on active duty. In addition, married women who attrited were significantly higher on the Dissatisfaction scales (multivariate $F(5, 79) = 5.73$, $p < .01$), while dissatisfaction did not appear to contribute to attrition among the single women (multivariate $F(5, 371) = .83$). For married women, the following variables were related to attrition: dissatisfaction with recreational and educational opportunities and with supervisors, nervous symptoms on the job, and lack of confidence in one's ability to perform the job.

Are Pregnant Women Who Remain on Active Duty Different From Pregnant Women Who Attrite?

Multivariate analyses of variance were also employed to determine whether the pregnant attrites were significantly different from the pregnant women who remained on active duty. The results of these analyses revealed that the two groups responded differently to Traditionality variables ($F(5, 51) = 2.56$, $p < .05$) (see Table 7). Examination of the univariate analyses reveals that the two groups were different because the pregnant attrites value family over career more often than do pregnant nonattrites. Marginally significant differences between the two groups suggest that the pregnant attrites were less likely to plan to marry and were more dissatisfied with their ability to do their jobs than were the pregnant women who did not attrite.

Are Women Who Attrite Because of Pregnancy Different From Women Who Attrite For Other Reasons?

Again, multivariate analyses of variance of the three constructs were conducted to examine differences between pregnant attrites and other attrites. These analyses indicated significant differences between the two groups on the Traditionality scales ($F(5, 65) = 3.32$, $p < .01$). Pregnant attrites planned to have children sooner and intended to have more children than did the women who attrited for reasons other than pregnancy (see Table 8).

Table 6

Factors Associated with Pregnancy and Attrition by Marital Status

Test	Marital Status: Married	Marital Status: Single
Pregnancy Prediction		
Multivariate test for traditionality variables	F(4, 100) = 1.91	F(4, 376) = 9.57***
Significant univariate tests		Number of children desired F = 4.43** Plans to have children soon F = 31.71*** Sex role adherence F = 2.83*
Multivariate test for isolation variables	F(5, 76) = .33	F(5, 354) = .70
Multivariate test for dissatisfaction variables	F(5, 79) = 1.69	F(5, 371) = 1.03
Attrition Prediction		
Multivariate test for traditionality variables	F(4, 100) = 2.76**	F(4, 376) = 2.82**
Significant univariate tests	Number of children desired F = 2.86* Balancing career/family F = 8.88***	Sex role adherence F = 4.94**
Multivariate test for isolation variables	F(5, 76) = 1.56	F(5, 354) = .15
Multivariate test for dissatisfaction variables	F(5, 79) = 5.73***	F(5, 371) = .83
Significant univariate tests	With recreational and educational opportunities F = 4.64** With ability F = 3.94** With supervisor F = 27.30*** Nervous symptoms on job F = 10.29***	

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

Table 7

Mean Scale Scores for Factors Associated with Whether Pregnant Marines Attrite

Variable	Attrite	Nonattrite	F
Traditionality Multivariate F(5, 51) = 2.56**			
Balancing career and family	3.32	2.63	4.42**
Number of children desired	2.92	2.63	.52
Plans to have children soon	2.46	2.44	.02
Marriage plans	3.54	4.19	3.69*
Sex role adherence	2.63	2.63	.00
Isolation Multivariate F(5, 52) = .44			
Perceived negative attitudes toward women Marines	2.80	2.93	.31
Harassment	2.71	2.65	.07
Socially excluded	2.54	2.31	.69
Cannot talk to women	3.07	2.84	.61
Cannot talk to men	2.96	2.75	.92
Dissatisfaction Multivariate F(5, 58) = .50			
With recreational and educational opportunities	2.59	2.44	.47
With ability	2.63	2.30	2.79*
With facilities	2.51	2.61	.18
With supervisor	2.65	2.66	.01
Nervous symptoms on job	2.90	2.71	1.06

Note. All scales are based on ratings of 1 to 5, except "dissatisfaction with ability" which is based on a rating of 1 to 7. High scores reflect traditional values, feelings of isolation, and feelings of dissatisfaction.

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

Table 8

Mean Scale Scores for Factors That Differentiate Pregnant Attrites From Other Attrites

Variable	Attrite	Nonattrite	F
Traditionality Scales Multivariate F(5, 65) = 3.32**			
Balancing career and family	3.32	3.10	.54
Number of children desired	2.90	2.17	4.99*
Plans to have children soon	2.46	1.97	8.39**
Marriage plans	3.54	3.60	.06
Sex role adherence	2.63	2.90	1.45
Isolation Scales Multivariate F(5, 64) = .77			
Perceived negative attitudes toward women Marines	2.80	2.99	.82
Harassment	2.79	2.96	.93
Socially excluded	2.54	2.23	2.16
Cannot talk to women	2.07	2.91	.46
Cannot talk to men	2.96	2.85	.27
Dissatisfaction Scales Multivariate F(5, 69) = .56			
With recreational and educational opportunities	2.59	2.77	1.11
With ability	2.63	2.82	.88
With facilities	2.51	2.78	2.48
With supervisor	2.65	2.66	.01
Nervous symptoms on job	2.90	2.82	.21

Note. All scales are based on ratings of 1 to 5, except "dissatisfaction with ability" which is based on a rating of 1 to 7. High scores reflect traditional values, feelings of isolation, and feelings of dissatisfaction.

*$p < .05$
**$p < .01$

DISCUSSION

The results of this analysis add significantly to understanding the relationship of traditional sex role orientation, feelings of isolation, and feelings of dissatisfaction with the USMC to pregnancy and pregnancy attrition among first-term Marine Corps women. To summarize:

1. Women who were pregnant at the time of the survey had more traditional sex role orientations, felt more isolated, and were less satisfied with the Marine Corps than women who were not pregnant at that time.

2. Women who attrited from the Marine Corps independent of pregnancy had more traditional sex role orientations, that is, they were more likely to value family over career than did women who remained.

3. Single women who became pregnant independent of attrition had more traditional sex role orientations than did non-pregnant single women. Traditional sex role orientation was not related to pregnancy for married women.

4. Women who attrited when pregnant were less committed to a career outside the home than were those who became pregnant and remained in the USMC, even when these measures were gathered prior to the pregnancy. Thus, the lack of commitment was a preexisting condition, not a result of the pregnancy.

5. Women who attrited because of pregnancy held more traditional values than women who attrited for other reasons, even before they became pregnant. Specifically they planned to have children earlier and to have more children than did women who attrited for reasons other than pregnancy.

6. The factors associated with attrition differed for married women and single women. Both traditionality and dissatisfaction with the Marine Corps were related to attrition for married women, while only traditionality was related for single women.

These results indicate that a woman's attitudes early in her enlistment can be useful in predicting successful completion of her first term.

Traditionality plays an important role in determining which women become pregnant and which women attrite at some point in their first enlistment. Women with extremely traditional values (i.e., those who choose family responsibility over careers) are more likely both to become pregnant and to attrite. Additionally, once a woman is pregnant, her commitment to relatively traditional values is the determining factor in whether she attrites. These findings suggest that less traditional women are more likely to complete their enlistments.

Because pregnancy is one way to get out of the Marines, one could hypothesize that the pregnant attrites are getting pregnant in order to get out of their commitment to the service. Findings from this study argue against it. Because dissatisfaction with the Marine Corps was not related to either pregnancy or attrition following pregnancy, it did not appear to lead a woman to conceive and then use her pregnancy as an excuse to attrite. Rather, the major factor associated with attrition once a Marine Corps woman is pregnant is her perception of her ability to balance the demands of a career with those of a family. These differences also suggest that once a Marine is pregnant, dissatisfaction with the Marine Corps is not a factor in determining whether she attrites.

The difference in factors associated with pregnancy and attrition for the married versus the single women in this sample is thought-provoking. Although marriage is a powerful predictor of pregnancy, it is traditionality, specifically number of children desired and plans to have children soon, that is related to pregnancy in single women. This suggests that the married women are likely to get pregnant regardless of their traditionality, while only the most traditional single women are likely to get pregnant.

The differences in factors associated with attrition in the married and single women are even more interesting. While in both groups the attrites are more traditional, child-related variables (i.e., ability to balance demands of career and family and number of children desired) are related to attrition in married women, and more general sex role adherence is related to attrition in single women. This, together with the association between dissatisfaction with the Marine Corps and attrition for married women, suggests that married women are deciding to attrite based on their perception of whether or not the Marine Corps can meet their needs as wives and mothers.

Two characteristics of the data set limit these analyses. First, because not all women answered all questions, a significant amount of data is missing. To keep the sample sizes as large as possible, an averaging procedure was used in computing the additive scales. This procedure could have the effect of making the results unstable or subject to bias toward those questions that were answered most often. For this reason the results should be interpreted with caution and replicated on a sample with more complete data.

The second limitation results from the fact that the only ways in which a woman in this study could be classified as pregnant were to (1) attrite because of pregnancy, (2) be pregnant at the time of the survey, and (3) have the official files reflect that she had added a minor dependent with a birthdate between April 1982 and October 1983. Therefore, the only pregnancies reported in this study were "official" and "public" pregnancies. Women who conceived but did not deliver or conceived and then attrited for reasons other than pregnancy were not identified as pregnant. Given this constraint on the identification of pregnant women, the results of these analyses should be interpreted as related only to "official" and "public" pregnancies and not to pregnancies ending in abortion or miscarriage. Because surveys of the contraceptive practices of Marine Corps women suggest that their actual pregnancy rate is approximately 20 percent per year instead of the previously estimated 6-15 percent, a large number of the women classified as nonpregnant in this data set probably did conceive during the course of the study. Replication of these findings with data which include pregnancies that end in abortion, miscarriage, or adoption is important if prediction of such pregnancies is desirable.

Another caution is probably appropriate for the reader who is not familiar with multivariate analysis. No commonly accepted guidelines currently exist for the use of planned comparisons and post hoc comparisons following a significant multivariate analysis of variance (cf. Bray & Maxwell, 1982; Borgen and Seling, 1978; Spector, 1977). Because the small number of women in some cells of the design made discriminant analysis inappropriate, one-way analyses of variance were used for planned comparisons and post hoc comparisons. Because of this limitation and that of the data set, these results should be replicated in a study having less missing data as well as a means for identifying pregnancy not recorded in official Marine Corps files.

In spite of these cautions about possible overinterpretation of these results, it is clear that first-term attrition, pregnancy, and pregnancy attrition are predictable from the attitudes and characteristics that Marine Corps women report early in their enlistment.

These results suggest that further study of the impact of traditionality, feelings of isolation, and feelings of dissatisfaction on pregnancy and attrition in the Marine Corps would be fruitful.

CONCLUSIONS

1. Women with extremely traditional orientations, that is, those who choose family responsibilities to the exclusion of any other career options, are more likely both to become pregnant and to leave the Marine Corps during their first terms than women with less traditional orientations.

2. Because dissatisfaction with the Marine Corps is not related to either pregnancy or attrition following pregnancy, it does not appear to lead a woman to conceive and then use her pregnancy as an excuse to attrite.

3. The major factor associated with attrition once a Marine Corps woman is pregnant is her perception of her ability to balance the demands of a career with those of a family.

RECOMMENDATIONS

1. Further study of pregnancy among Marine Corps women is needed to understand the impact that traditional career orientation, feelings of isolation, and dissatisfaction with the Marine Corps have on pregnancy and attrition. The sample should include women whose pregnancies end in abortion or miscarriage or who place their children for adoption as well as women who combine motherhood and a Marine Corps career.

2. Further study should explore the differences between pregnancy attrites and women who attrite for other reasons.

3. Women with extremely traditional career orientations should either not be enlisted or should be helped to discover ways of combining family and career goals in their lives.

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