EXPERIENCE OF POSTPARTUM ACTIVE DUTY WOMEN IN TRAINING FOR THE U.S. AIR FORCE FITNESS ASSESSMENT

By

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Disclaimer: The views expressed in this dissertation are those of the author and do not reflect the official policy or position of the United States Air Force, Department of Defense, or the U.S. Government.
EXPERIENCE OF POSTPARTUM ACTIVE DUTY WOMEN IN TRAINING FOR THE U.S. AIR FORCE FITNESS ASSESSMENT

Abstract

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In order to facilitate and evaluate physical readiness, active duty personnel of all branches of the U.S. military are required to pass periodic fitness assessments. United States Air Force (USAF) personnel must pass a fitness assessment in order to earn satisfactory performance evaluations and be eligible for special duty assignments and promotion. Prior research suggests that fitness levels in women decrease after pregnancy and childbirth and that most women have not achieved pre-pregnancy fitness levels by 6 months postpartum. Furthermore, women can be particularly vulnerable to mental and physical health problems during the postpartum period. Therefore, some women may struggle in preparing for and passing the 6-month postpartum fitness assessment. It is unknown how training for the fitness assessment during this time of vulnerability may impact health.

The purpose of this study was to explore the experiences of active duty women as they prepare for their fitness assessment after childbirth. The aim of this study was to describe and interpret the experience of active duty women who train for the Air Force fitness assessment taken at 6 months postpartum. A Heideggerian hermeneutic approach was used to interpret meaning in the experiences of these women in order to develop a better understanding about this phenomenon. Two overarching patterns emerged from this analysis: Striving to Perform under
*Pressure through Profound Life Changes of Childbirth and Seeking Understanding from Others.*

These results provide insight into the challenges women face in regaining optimal fitness after childbirth and can be used by healthcare providers and USAF leaders to facilitate active duty postpartum women in returning to optimal fitness and well-being.
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Dedication

This dissertation is first dedicated to my husband, Alan, and my children, Tristan and Erin for all of their love and support; and for putting up with my long hours of work no matter where we were in the world.

Secondly, to all the U.S. Air Force active duty mothers for the faithful service they give to their country and their families.
CHAPTER ONE
INTRODUCTION

Active duty members of the armed services must be physically fit in order to accomplish their mission both at home station and while deployed in theaters of military operations. All branches of the U.S. military assess the fitness level of active duty members through periodic physical fitness tests. However, active duty childbearing women may be challenged by current military practices of fitness assessment requirements. With women making up an ever increasing percentage of the active duty population, this could be a significant concern for thousands of people. By late 2012, there were approximately 204,000 female U.S. active duty military members (U.S. Department of Defense, 2012). Of these around 63,000 were in the USAF (approximately 18.9% of USAF military personnel). Historically over 90% of all female military members are 40 years of age or under (U.S. Department of Defense, 2010) and therefore of childbearing age. In fact, Friedl (2005) found that approximately 10% of active duty women will be pregnant during any given year. This would equate to an estimated 6,300 women per year for the USAF.

Active duty personnel are exempted from taking the test under certain conditions, and one such condition is pregnancy. When an active duty Air Force woman becomes pregnant she is exempted from taking the fitness test until 6 months postpartum at which time she must accomplish the fitness assessment. However, some women may have difficulty achieving pre-pregnancy fitness levels by 6 months postpartum, particularly if they were not able to maintain fitness during pregnancy. Lower fitness test scores or even failure of the fitness test at 6 months postpartum may result from a reduction in pregnancy and postpartum fitness activities. Failure of an Air Force fitness test impacts satisfactory performance reports and may inhibit career
progression (USAF, 2010b). This is a potential concern not only for thousands of women, but also USAF leadership. Postpartum active duty women may not only be struggling to achieve pre-pregnancy fitness levels but are also usually adjusting to caring for an infant and returning back to work in the first 6 months after childbirth. Therefore, the requirement to pass the fitness test may be one more stressor during a time that many women are already feeling physical and emotional stress.

The primary mission of military nursing is to help ensure a fit and ready force. In order to accomplish this mission, military nurses must understand what contributes to the health and fitness of active duty members so that appropriate nursing interventions can be planned. In addition, military nurses, along with other military health care clinicians, must be able to advise senior leadership on policies that impact the health of active duty personnel. Consequently, it is important for nurses to understand the phenomenon of the experience of active duty women in trying to achieve fitness standards during the postpartum period. Once this phenomenon is understood, nurses can plan and evaluate interventions to enhance facilitating factors and mitigate inhibiting factors that affect active duty women’s ability to achieve optimal fitness after childbirth. They can also use this new knowledge to better advise USAF leadership on the health and welfare of their active duty members.

**Background and Significance**

The USAF has written standards regarding expectations of the physical fitness of its members with the rationale being that maintaining optimal fitness not only improves health but also performance of mission requirements (USAF, 2010b). The fitness level of USAF members is assessed by a physical fitness test done annually or semi-annually, depending on the prior score achieved (USAF, 2010b). The USAF fitness test consists of four components: timed sit-up
repetitions, timed push-up repetitions, abdominal circumference measurement, and a timed 1 ½ mile run. In order to pass the test, members need to achieve a minimum measurement based on age and gender in each component, and an overall score of at least 75 out of 100 (USAF, 2010b). Total possible points for each component changed slightly as of 1 July 2010 to the following: abdominal circumference - 20 points, 1 ½ mile run - 60 points, push-ups - 10 points, and sit-ups - 10 points. Points earned and minimum thresholds for each are dependent on gender and age (see Table 1) (USAF, 2010b).

Table 1. Minimum USAF Fitness Assessment Component Requirements for Women by Age

<table>
<thead>
<tr>
<th>AGE</th>
<th>ABD CIRC</th>
<th>RUN</th>
<th>PUSH-UPS</th>
<th>SIT-UPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 30</td>
<td>≤ 35.5 inches</td>
<td>≤ 16:22 min:sec</td>
<td>≥ 18 reps in 1 min</td>
<td>≥ 38 reps in 1 min</td>
</tr>
<tr>
<td>30-39</td>
<td>≤ 35.5 inches</td>
<td>≤ 16:57 min:sec</td>
<td>≥ 14 reps in 1 min</td>
<td>≥ 29 reps in 1 min</td>
</tr>
<tr>
<td>40-49</td>
<td>≤ 35.5 inches</td>
<td>≤ 18:14 min:sec</td>
<td>≥ 11 reps in 1 min</td>
<td>≥ 24 reps in 1 min</td>
</tr>
</tbody>
</table>

Pregnant women are exempt from testing but must pass the fitness test by the end of the 6th calendar month after delivery. An exception to testing at this time could occur if a woman has developed another condition, such as a lower extremity injury or abdominal surgery, which can extend exemption from testing based on medical recommendations (USAF, 2010a). Members who do not pass the fitness test at the designated time face a potential unsatisfactory performance evaluation and can be ineligible, at least temporarily, for career progression and certain duty assignments.

Although the USAF has had a fitness requirement for many years, it has only been recently (since 2008) that not passing the fitness test could cause an unsatisfactory job
performance evaluation. Also, by July 2010, the USAF increased the complexity of the fitness test by adding minimum passing requirements to each component in addition to an overall passing score. Prior to this change, an active duty member could pass the test without being able to perform well in the sit-ups or push-ups component if her scores were high enough in the run and abdominal circumference components of the test. Also, with current standards, just meeting the minimum required measurements in each component will not achieve the needed overall passing score of 75. Four months after the changes (November 2010), the overall passing rate of all members was around 82.6% with women having slightly lower pass rates than men (80.8% and 82.8% respectively). For women who failed the test due to failing one component, 13% failed the abdominal circumference component, 28% failed the run component, 34% failed the sit-ups component and 25% failed the push-ups component (Fontaine, 2010).

As previously mentioned, active duty women who experience childbirth must be able to pass their fitness test at 6 months postpartum (USAF, 2010b). Theoretical models such as the theory of stress, appraisal and coping (Lazarus & Folkman, 1984) and life transitions theory (Meleis, Sawyer, Im, Hilfinger Messias, & Schumacher, 2000) exist that explain how increased physical and emotional stress and transitioning to motherhood can cause people to be more vulnerable to illness. The first 6 months postpartum is a period of time when women might be feeling physical and emotional stress. For example, with an ever increasing cesarean delivery rate, women might be recovering from major surgery, caring for a newborn, assuming a new role or additional role of motherhood, and returning to work in 42 days. In addition, compared to the general population of childbearing women, active duty personnel have been found to have higher rates of depressive symptoms and fatigue during the postpartum period (O’Boyle, Magann,
Ricks, Doyle, & Morrison, 2005; Rychnovsky 2007) which could hamper their ability to do physical training and contribute to anxiety about meeting fitness standards.

Maintaining physical fitness during pregnancy has been shown to have benefits for women in pregnancy, labor and delivery, and the postpartum period (Downs & Hausenblas, 2007; Gavard & Artal, 2008). Furthermore, the American College of Obstetricians and Gynecologists (2002) recommends continued exercise during pregnancy for most women. However, many women will stop physical training during pregnancy for various reasons and a total loss of conditioning may occur within several months of discontinuing training (Melzer, Schutz, Boulvain & Kayser, 2010). In addition, complications that occur during pregnancy may force women to stop exercising or even to be placed on bed rest for medical reasons. Finally, while there are many studies demonstrating the benefits of exercise during pregnancy and the postpartum period as it relates to cardiovascular capacity, no studies were found that address the ability of women to do push-ups and sit-ups specifically after either a vaginal or cesarean delivery.

In addition to components related to specific exercises, the USAF fitness assessment includes a measure of body composition in the form of an abdominal circumference measurement. Studies done in civilian populations indicate that many women exceed recommended weight gain standards during pregnancy (Chu, Gallaghan, Bish, & D’Angelo, 2009; Fontaine, Hellerstedt, Dayman, Wall, & Sherwood, 2012). Furthermore, many women retain weight gained during pregnancy well into the first postpartum year and beyond (Walker, Sterling, & Timmerman, 2005). Postpartum weight retention may result in an increased abdominal circumference thereby making it more difficult for childbearing women to achieve
fitness standards by 6 months postpartum. Published studies addressing postpartum weight retention in active duty Air Force women were not found.

Additional gaps in the literature were noted on the effects of childbirth and the ability of active duty USAF women to meet fitness standards at 6 months postpartum. Compounding this problem is the fact that data on pass rates for postpartum women specifically have not previously been available. However, one study done on Army soldiers showed that physical fitness scores generally decreased from pre-pregnancy to 6 months postpartum and that women were more likely to fail a physical fitness test at 6 months postpartum than prior to becoming pregnant (Weina, 2006). In this study the author found several factors that negatively impacted postpartum fitness scores of postpartum active duty soldiers. These factors included excessive weight gain in pregnancy, complications during pregnancy or delivery, and cesarean delivery.

In order to inform the background of this present study, a preliminary study was done in which fitness assessment measurements of active duty women prior to pregnancy were compared to their measurements at 6 months postpartum (Armitage & Smart, 2012). The results of this study showed that at the 6-month postpartum time frame, measurements were significantly different from the pre-pregnancy measurements in the following ways: the abdominal measurement increased, push-up repetitions decreased, and run times increased. No significant difference was found in sit-up repetitions between the two time frames in this study. Secondly, women were more likely to fail the fitness assessment at 6 months postpartum than prior to pregnancy. Findings from this study are consistent with other studies that indicate many women do not achieve pre-pregnancy fitness levels by 6-months postpartum.

Not only has there been little published research on the effect of a childbirth event on the ability of active duty women to achieve fitness standards, but no research was found on the self-
reported lived experience of postpartum active duty women as they try to achieve any mission requirements, including trying to achieve fitness standards. However, some research has been done related to the difficulty experienced by civilian women in achieving postpartum fitness (Evenson, Aytur & Borodulin, 2009; Jenkins, Handcock, Burrows & Hodge, 2006). Research also exists that shows the postpartum time period, particularly after returning to work, can be a very stressful time for both civilian and active duty women (Declercq, Sakala, Corry, & Applebaum, 2007). Results from the present study help to fill some of this gap in knowledge and provide insight into the experience of postpartum active duty USAF women who are trying to achieve fitness standards.

**Statement of the Problem**

For nurses to understand how to assist active duty women to achieve optimal health and fitness in order to successfully perform their duties after childbirth, they must first understand the lived experience of postpartum women who are trying to meet fitness standards. Although some research has been done regarding changes in exercise and fitness in postpartum women, no studies were found that could inform nurses about the lived experiences of active duty women who are required to meet specific fitness standards.

**Statement of the Purpose**

The purpose of this study was to develop a deep understanding of the lived experience of postpartum active duty women as they train for their first postpartum fitness assessment. Understanding was sought by interpreting the meaning of the lived experience through an interpretive phenomenological study. A phenomenological methodology was chosen because it is well-suited for revealing essential aspects of a phenomenon about which little is known. The
results of this study could be used to expand the body of nursing knowledge and inform nursing interventions aimed at assisting active duty women achieve optimal fitness levels postpartum.

**Research Question**

Heideggerian phenomenology, the guiding philosophy of this research, is concerned with what it means to exist within the context of a particular experience. Therefore, the research question for this study is: What is the meaning of the experience of preparing for the U.S. Air Force fitness assessment after childbirth?

**Specific Aim**

The specific aim of this study was to describe and interpret the experience of active duty women, who have been pregnant and given birth, as they train for the U.S. Air Force fitness assessment taken at 6 months postpartum.

**Summary**

The health and well-being of thousands of childbearing active duty USAF women are a concern for military health care clinicians, leaders, and families. Active duty personnel need to maintain fitness in order to perform their duties and for career progression. The perinatal period is a time that many women may have decreased physical fitness and increased vulnerabilities to mental and physical illnesses. This phenomenological study is needed to improve the health of childbearing women through gaining a better understanding of how preparing for the USAF fitness assessment postpartum impacts the health and well-being of postpartum active duty women. Following is a review of the relevant literature related to this topic.
CHAPTER 2

REVIEW OF THE LITERATURE

Fitness and the Military

All branches of the U.S. military assess the fitness level of active duty members through periodic physical fitness tests. Research has been done on the ability of various groups of military members to pass fitness tests. Most of this research has been done with U.S. Army personnel who are assessed with the Army Physical Fitness Test (APFT). Although the Army is currently revising the APFT, since 1980 the test has consisted of three components: a timed 2-mile run, sit-up repetitions within two minutes, and push-up repetitions within two minutes (Schloesser, 2011). Each component has a maximum score of 100 points and a minimum score of 60 points. Points allotted are based on age and gender. This is a little different than the current USAF fitness assessment which, since 2004, has four components: a timed 1.5 mile run, sit-up repetitions within one minute, push-up repetitions within one minute, and an abdominal circumference measured in inches. Both the Army and the USAF fitness assessments are designed to assess aerobic capacity with the run component and strength with the push-ups and sit-ups components. The USAF fitness test also has the added body composition assessment with the abdominal circumference measurement.

There are multiple studies in which researchers looked at the impact of different training interventions on fitness assessment outcomes. In one study, 35 men were assigned to 4 different combinations of 12-week training regimens that included endurance training, resistance training and upper body strength training (Kraemer et al., 2004). The authors found that endurance training alone and endurance training plus upper body strength training showed improved performance on all three components of the APFT.
In addition, two studies have been done that have addressed fitness in new Army recruits. In the first of these studies, low-fit recruits (64 men and 94 women) who failed their initial assessment were found to have lower attrition and injury rates when they received a preconditioning program prior to basic combat training compared to low-fit recruits (32 men and 73 women) who went directly to basic combat training without the preconditioning program intervention (Knapik et al., 2006). In the second study, Army recruits in basic combat training were placed in one of two groups: a Physical Readiness Training (PRT) intervention group (N=1284) or a traditional Army physical training control group (N=1296). The PRT consisted of specific physical training tasks designed to mimic operational tasks including calisthenics, dumbbell drills, climbing drills and running. The PRT consisted of lower running mileage and increased variety of exercises compared to traditional Army physical training. The group of men and women who received the PRT intervention had higher pass rates and lower injury rates compared with the soldiers in the control group (Knapik, Rieger, Palkoska, Van Camp, & Darakjy, 2009).

Several studies were found that were conducted with USAF personnel. Seventeen active duty men were studied for their response to a nontraditional training program that emphasized more strength training and less aerobic training when compared to the traditional training program (O'Hara, Schlub, Siejack, Pohlman, & Laubach, 2004). The participants had all failed the cycle ergometry USAF fitness test for aerobic fitness and had not responded to traditional aerobic training. The men in the nontraditional group had better scores on cycle ergometry testing than those in the traditional group. In another study, researchers compared two exercise protocols on fitness improvement in poorly conditioned USAF personnel (Westcott, Annesi, Skaggs, Gibson, & Reynolds, 2007). These authors found that in both men and women who
previously failed their fitness tests, participation in 12 weeks of increased strength conditioning resulted in more people achieving a passing fitness assessment score than participation in the standard training regimen. Similarly, Webber, Nelson, and Gildengorin (2012) evaluated the effects of a lifestyle modification program called Be Well on fitness assessment scores of 276 airmen who had failed the USAF fitness assessment. The Be Well program consisted of a 4-hour slide presentation and demonstration aimed at fitness, nutrition and behavior change. The results of this study indicated that, on average, fitness assessment scores improved for both men and women after going through the Be Well program. Lastly, in a recent study of 15 active duty USAF women who had breast reduction surgery, no significant differences were found in fitness component measurements from before surgery to after surgery (Latham, Brehm, & Sharon, 2011).

Several studies have been done on factors that may be associated with fitness assessment performance. Pandorf et al. (2002) studied 12 Army women and found a correlation between APFT performance and performance in load carriage through an obstacle course. Load carriage ability is an important operational task for many specific military jobs. These authors found that larger and leaner women were better able to perform obstacle load carriage than smaller women. In a study of Navy sailors, researchers found that increased Body Mass Indices (BMIs) were associated with lower fitness test scores (Bohnker, Sack, Wedierhold, & Malakooti, 2005). In looking at stress and fitness in soldiers participating in formal Survival Training, researchers found that physical fitness as measured by APFT performance was inversely associated with stress (Taylor et al., 2008). In other words, soldiers in extreme training environments that had higher APFT scores tended to have lower reported stress. In another study done on 230 soldiers (84.8% male), researchers discovered that perceived family-friendly environments on military
posts and work-life conflict were both positively correlated with APFT scores (Huffman, Culbertson, & Castro, 2008). The authors were unable to explain why greater work-life conflict was associated with higher APFT scores.

There are also several studies that involve physical fitness and training as they relate to injury and aerobic capacity. A review of military studies of injuries in women during basic training, a time of consistent, regimented fitness training for all services, showed injury rates for women ranging from 42-67% for the Army, 33% for the Air Force, 22% for the Navy and 49% for the Marine Corp (Gilchrist, Jones, Sleet, & Kimsey, 2000). Giovanetti, Bemben, Bemben and Cramer (2012) looked at aerobic capacity and injuries in active duty men and women comparing cycle ergometry testing done in 2003 with 1.5 mile run testing in 2005. Men and women both had higher aerobic capacity as measured by estimated VO\textsubscript{2} max (maximal oxygen uptake) with men having greater improvements than women. Both men and women had an increased number of injuries, although groups were not compared to each other and it was unknown if injuries were related to fitness training. Currently the run component of the USAF fitness assessment is designed to measure aerobic capacity as an estimated measure of VO\textsubscript{2} max. VO\textsubscript{2} max is the most commonly used measure of aerobic capacity and endurance. Lastly, researchers evaluated a one mile walk as an alternative to the 1.5 mile run to assess aerobic capacity in 24 USAF men (Weiglein, Herrick, Kirk, & Kirk, 2011). These authors reported that they found the one mile walk to be a viable alternative to 1.5 mile run in predicting aerobic capacity. In addition, no differences in fitness scores were found between the one mile walk and the 1.5 mile run.

The above research suggests that military personnel may benefit from specific fitness training that is different from traditional training prior to taking fitness assessments. In addition,
injury as a result of intense training could be mitigated with methods other than traditional training. Unfortunately, none of the above studies addressed fitness of active duty women during the perinatal time frame. Women may have difficulty with physical training regimens, particularly traditional physical training, and may be at increased risk of injury during their pregnancy and initial postpartum period. Moreover, little research has been done on the effects of childbearing on overall fitness of active duty USAF women. However, four studies were found that do address the perinatal population and involve active duty women.

In the first of these studies, Lombardi (1999) examined the effects of a prenatal wellness program on several variables including APFT scores. Results showed that postpartum APFT scores were on average lower than pre-pregnancy APFT scores for the intervention group and the control groups, but no significant differences were found between groups. In addition, 33 out of 181 (18%) women failed the APFT during the postpartum time frame and most of these failures (26) were a result of failing the run component of the APFT. No comparison of postpartum and pre-pregnancy APFT failure rates was reported in this study.

In another study done in the active duty Army population, Weina (2006) researched the length of time soldiers needed to achieve pre-pregnancy fitness levels after childbirth as measured by the APFT. Results of this study showed that there were significant differences between pre-pregnancy and initial postpartum APFT scores. Furthermore, several factors were found to have statistically significant effects on APFT scores including perinatal complications, weight gain, and postpartum exercise practices. Lastly, the participants’ perceptions on postpartum fitness were evaluated with a questionnaire. Results from the questionnaire indicated that most women thought that six months was not enough time to return to pre-pregnancy fitness levels, and they felt that instead it took about a year to achieve pre-pregnancy fitness levels.
Participants were also asked to list factors that kept them from physical training in the postpartum period. Factors listed included: being overwhelmed while trying to balance work, child care issues and a new baby; certain medical conditions; and pain experienced from full breasts while running.

Kwolek, Berry-Caban, and Thomas (2011) reported on a study done with 74 soldiers who were surveyed about participation in the Pregnant Soldiers Wellness Program (PSWP), an exercise and educational program for pregnant and postpartum soldiers. In this study, 56 of the participants had vaginal deliveries and 18 (24.3%) had cesarean deliveries. Forty-nine of the 74 soldiers reported that they participated in the PSWP. Soldiers considered several factors prior to participating in PSWP: encouragement by their obstetric provider, unit command encouragement, spousal support, word of mouth by other PSWP participants, and safety and structure of the program. The authors also found that overall most soldiers believed that exercising during pregnancy was safe and beneficial to the baby and for returning to fitness standards more quickly. Further, 11 soldiers (14.9%) were on a physical profile that prohibited them from undertaking any physical activity. Six soldiers (8.1%) were prohibited from running, three (4.1%) were prohibited from doing pushups and abdominal exercises, and one (1.4%) was prohibited from undertaking nearly all physical activities. Additionally, six soldiers (8.1%) were ordered to stop participation in the physical fitness portion of the program because of a medical condition.

The three published studies above were all done with the Army population and until recently no research had been done involving active duty USAF childbearing women. However, to inform the background of this dissertation, Armitage and Smart (2012) compared USAF fitness assessment component measurements of 107 active duty women prior to pregnancy with
their 6-month postpartum results. Significant differences in measurements of the abdominal circumference, run, and push-up component measurements were found between the two time frames. On average, abdominal circumferences were higher, run times were slower, and there were fewer push-up repetitions at the 6-month postpartum time frame compared with fitness assessment measurements done prior to pregnancy. No significant difference was found in sit-up repetitions. In addition, the failure rate for the fitness assessment at 6-months postpartum was 26.5%, much higher than the failure rate of 5.9% prior to pregnancy although this may have been at least partly related to the changed fitness assessment standards that occurred 1 July 2010.

These studies indicate that active duty women not only may have difficulty returning to optimal fitness levels by 6 months postpartum but also may have more difficulty meeting minimum fitness standards. Although it may not be essential to obtain optimal fitness by 6 months postpartum, the USAF deems it is necessary for childbearing active duty women to achieve the minimum standard of fitness determined by passing the fitness assessment components by 6 months postpartum. Failure to achieve fitness standards may result in more time away from the duty section in order to do additional physical conditioning and attend mandated fitness and nutrition classes. Moreover, failure may contribute to feelings of stress and loss of confidence in future fitness assessment performance on the part of the individual. Air Force Instruction 36-2905 (USAF, 2010b) states that USAF members who fail to comply with fitness standards may be subject to adverse actions such as deferred promotion, letter of reprimand, and, if unable to improve fitness after a failure, administrative discharge from the USAF.
Fitness during Pregnancy and Postpartum

Although very few studies were found that address fitness during the perinatal period for active duty women, there are more published studies that involve exercise and fitness in civilian childbearing populations. Maintaining physical fitness during pregnancy has been shown to have benefits for women in pregnancy, delivery and the postpartum period. The American College of Obstetricians and Gynecologists (2002) recommends continued exercise during pregnancy for most women. One benefit of exercise during pregnancy is that it may help to control weight. Women who chose to exercise during the third semester were found to have lower postpartum BMIs and healthier birth outcomes compared to women who did not exercise during the third trimester (Downs & Hausenblas, 2007). Exercise before and during pregnancy has also been shown to possibly decrease the risk of gestational diabetes, pre-eclampsia, and excessive weight gain, and has not been shown to have any adverse effects on the fetus (Gavard & Artal, 2008).

Despite known benefits of exercising, many women will stop physical training during pregnancy and/or the postpartum period for various reasons, and a total loss of conditioning will usually occur within several months after ceasing physical training (Melzer, Schutz, Boulvain & Kayser, 2010). During pregnancy women may stop exercising either because of their practitioner’s advice (i.e. for medical reasons) or from the natural physiologic changes of pregnancy that make exercises such as running, push-ups, and sit-ups too difficult. Under extreme circumstances, some women may be placed on modified or complete bed rest when the pregnancy is at risk. Even women who do not experience serious complications during pregnancy may stop exercising because of other perceived difficulties. For example, in a study of New Zealand women, researchers found that first time mothers who exercised regularly prior
to pregnancy expressed increased barriers to exercising which caused some not to resume exercise (Jenkins, Handcock, Burrows, & Hodge, 2006). These barriers included: soreness, fatigue, low tolerance to exercise, unpredictable schedules, organizational demands, household chores, lack of support from family and friends, lack of access to exercise facilities, and lack of information or encouragement from health care providers.

Pereira et al. (2007) also studied changes in activity levels of 1142 women from pre-pregnancy, mid-pregnancy and at 6-months postpartum. These researchers found that activity levels on average decreased in pregnancy and at 6-months postpartum compared with levels prior to pregnancy. Moreover, insufficient activity at 6 months postpartum was associated with increased postpartum weight retention. Thirdly, women at highest risk for insufficient activity during and after pregnancy were those who already had children in the home, worked full-time, and did not decrease their work hours during and after pregnancy. Lastly, women in this study reported barriers of lack of time and lack of child care as contributing to loss of physical activity.

Other research in civilian populations indicates that fitness and strength levels during the postpartum period are below what they were prior to pregnancy. Trueth, Butte and Puyau (2005) looked at physical activity and compared aerobic and strength fitness levels prior to pregnancy and two postpartum time frames (6 weeks and 27 weeks) for 63 women. Physical fitness was measured by a maximal VO2 test on cycle ergometry and strength was measured by one-repetition maximum tests on leg press, leg extension, bench press, and latissimus pull-down machines. The authors found significantly lower maximal oxygen consumption, arm strength and leg strength at 6 and 27 weeks postpartum compared with the pre-pregnancy time frame. An increase in strength was noted between 6 and 27 weeks postpartum indicating there was some, although not full, recovery in pre-pregnancy strength and fitness levels by 27 weeks postpartum.
By contrast, the Air Force fitness assessment must be completed by the 6th calendar month after delivery, or 24-26 weeks postpartum. While this study is one of the few to address strength as well as cardiovascular fitness in perinatal women, the ability to perform push-ups and sit-ups specifically was not considered. Conversely, USAF fitness standards mandate that women are able to meet minimum requirements for push-ups and sit-ups as measures of strength (USAF, 2010b).

Although sit-ups specifically were not addressed, one study was found that looked at abdominal muscle function after childbirth (Liaw, Hsu, Liao, Liu & Hsu, 2011). The researchers of this study found that there was improvement in muscle function between 7 weeks and 6 months postpartum. However, abdominal muscle function was still significantly less than nulliparous matched controls at 6 months postpartum. This suggests that abdominal muscle function does not naturally return to pre-pregnancy levels by 6 months postpartum.

It is unclear whether it is from decreased physical training or physiologic changes that occur during pregnancy (or both), but there is evidence as summarized above in civilian and military studies that women do not generally achieve pre-pregnant fitness and strength levels by 6 months postpartum. It is, therefore, reasonable to consider that women may have increased difficulty meeting fitness standards by 6 months postpartum. How this difficulty might affect active duty women’s physical and mental well-being remains unknown. Studying the experience of active duty women as they train for physical fitness assessments may help health care providers to understand this phenomenon.

**Postpartum Weight Retention**

Since the USAF fitness assessment includes a body composition component in the form of an abdominal circumference measurement, it is important to consider the effects of pregnancy
and childbirth on weight. Numerous studies have been done on gestational weight gain and postpartum weight retention. Many women in the U.S. gain excessive weight during pregnancy, and weight gain during pregnancy is positively associated with postpartum weight retention.

Two large studies have shown that high percentages of normal weight and obese women gain excessive weight during pregnancy. In one of these studies, researchers compared weight gain by BMI of over 50,000 women who delivered between 2004 and 2005 (Chu, Gallagher, Bish, & D’Angelo, 2009). They found that 40% of normal weight and 60% of obese women gained excessive weight during pregnancy, and that young women (19 years old or younger) and nulliparous women were more likely to have excessive weight gain than older or multiparous women. In the second study, researchers compared gestational weight gains of 2,760 women to the Institute of Medicine (IOM) recommendations for gestational weight gain (Fontaine, Hellerstedt, Dayman, Wall, & Sherwood, 2012). In this study, 49%-80% of normal weight, overweight, and obese women exceeded IOM recommendations for gestational weight gain with white women having higher rates of excessive weight gain than black women.

Excessive weight gain has been associated with postpartum weight retention. In a review and analysis of articles published between 1986 and 2004, researchers discovered that data from the 12 articles included in the study indicated that women retained on average 3 to 7 kilograms of gestational weight by 6 weeks postpartum (Walker, Sterling, & Timmerman, 2005). In addition, they found that at least two-thirds of women exceeded their pre-pregnant weights at 6 weeks postpartum and that gestational weight gain was the most significant predictor of postpartum weight retention.

Not only is it common for U.S. women to gain excessive gestational weight and retain some of the weight postpartum, but women can feel particularly challenged with trying to lose
weight after childbirth. Montgomery et al. (2011) studied the experiences of 24 women in trying to lose weight during the postpartum period. They found that many of the participants were motivated to lose weight by a desire to return to their previous size. However, many of the women struggled with weight management during the postpartum period citing difficulty in finding time to engage in activities that promote weight loss and needing to find support. In addition, some participants described depression and coping with physical changes related to pregnancy as contributing to their hurdles in managing their weight.

Finally, one study was found involving active duty women and perinatal weight gain. In this study, Greer et al. (2012) considered perinatal weight gain in two distinct active duty populations by examining the percentages of 178 active duty U.S. Marine Corps (USMC) and U.S. Navy (USN) women who were within weight standards prior to pregnancy and at 6 months postpartum. Results of this study indicated that 28% of these women were out of weight standards at 6 months postpartum with USN women more likely to be out of weight standards than USMC women. Furthermore, these women were less likely to be within weight standards at 6 months postpartum compared to their weight pre-pregnancy.

Postpartum Vulnerabilities

The postpartum period is a time of emotional and physical changes for childbearing women. Active duty women must physically and mentally recover from childbirth which may include recovery from major surgery by the time they return to work at 6 weeks after delivery. In addition, new mothers must adjust to their new role as a parent and active duty women often live far from family and traditional support structures. Regrettably, little research, if any, has been done on the lived experience of postpartum active duty women as they try to achieve mission requirements including trying to achieve fitness standards.
Research does exist that indicates that the postpartum time period, particularly after returning to work, can be a very stressful time for both civilian and active duty women (Declercq, Sakala, Corry, & Applebaum, 2007). Depression is a particular concern during the first year after childbirth and has been extensively studied in postpartum women. According to The World Health Organization (n.d.), depression is most likely to occur in women during the childbearing years, and postpartum depression is thought to affect around 13% of women. There is evidence that postpartum depression rates may be even higher in active duty women. For example, O’Boyle, Magann, Ricks, Doyle, and Morrison (2005) studied depression rates of active duty Army women during pregnancy and at 7-10 weeks postpartum. They found approximately 19% of the soldiers screened positively for depression and 15% had suicidal ideation at the 7-10 months postpartum time frame. Appolonio and Fingerhut (2008) studied active duty Air Force women and found a postpartum depression rate of 19.5%. Lastly, Rychnovsky and Beck (2006) studied the use of the Postpartum Depression Screening Scale in active duty women; most of who were in the Navy, and found 40% had depressive symptoms at 6-8 weeks postpartum.

Physical symptoms and functioning in women during the postpartum period were addressed in another study as well. Declercq, Sakala, Corry, and Applebaum (2007) reported on results of the Listening to Mothers II survey which was a national survey of U.S. women who gave birth in 2005. The purpose of the survey was to obtain information about pregnancy, birth and postpartum experiences of U.S. women. A total of 903 women responded to the postpartum portion of the survey. Many indicated that they experienced various new-onset health problems in the first 2 months after birth, particularly physical exhaustion, sore nipples and breast tenderness, pain at incision site (for those who had cesarean deliveries), and urinary problems.
(for those who had vaginal deliveries). Twenty-five percent of all mothers in this study reported physical exhaustion that persisted for 6 months or more postpartum, and 18% of all cesarean mothers reported incision site pain that persisted for 6 months or more postpartum.

Since all active duty women must return to work and fully function in their duties approximately 6 weeks after childbirth, another factor to consider is how returning to work may impact health. McGovern et al. (2007) interviewed 661 women at 11 weeks postpartum and compared health outcomes of women who were on maternity leave with those who had returned to work. They also looked at the number and type of postpartum symptoms and factors related to health outcomes. Approximately half of the women were still on maternity leave and half had returned to work. These researchers found no difference between the two groups in health outcome scores. However, in looking at the group as a whole, women reported an average of four childbirth-related symptoms as measured by a postpartum symptom tool. The most common symptom reported was fatigue (43%). Findings also indicated that better preconception health, the absence of prenatal mood problems, more control over work and home activities, more social support at work and home, and less job stress were significantly related to better health outcomes.

Similarly, Webb et al. (2008) surveyed over 1300 women, of whom most were of low income (average annual household income was under $10,000) and of African American descent (70%), to determine what types of mental and physical health problems and functional limitations they had within the first year postpartum. They found that reports of functional limitations, depressive symptoms, and poor emotional health were associated with physical health problems. They also found that 69% of the participants reported at least one physical health problem since childbirth and 45% reported at least one problem that was of moderate or
major severity. The researchers concluded that physical health problems were common, persisted up to a year postpartum and negatively influenced the quality of life of women after childbirth.

As implied in the study discussed above, the perinatal period may be accompanied by negative effects on overall health. Haas et al. (2004) examined changes in health during and after pregnancy. Approximately 1500 women were surveyed during 4 time-frames: prior to 20 weeks gestation, 24-28 weeks gestation, 32-36 weeks gestation, and 8-12 weeks postpartum. Results of this study indicated that physical function and vitality decreased during the course of the pregnancy with increases during the postpartum period, although vitality had not approached baseline levels by 3 months postpartum. In addition, depression increased substantially during pregnancy but decreased again during the postpartum period and approached baseline by 3 months postpartum. Factors associated with poor health during the postpartum time frame included: an episode of insufficient money for food or housing, perceived lack of social support, cesarean delivery, forceps or vacuum delivery, and pregnancy-related hypertension.

Two studies were found that involved the active duty, predominantly Navy, population. In the first study, the researcher investigated fatigue and functional status at the time of returning to work (Rychnovsky, 2007). Fatigue, depression, anxiety, maternal sleep and functional status were all measured by validated scales. Several factors were noted to be correlated with fatigue at 6 weeks postpartum (the time the participants were returning to work). These factors were: depression, anxiety, maternal sleep and functional status. A regression analysis done in this study showed that maternal anxiety predicted fatigue at 6 weeks postpartum. Furthermore, the researcher discovered that at the time they returned to work over half of the participants had not reached full functional status and 40% had symptoms of postpartum depression and anxiety.
In the second study involving postpartum active duty women, the researchers sought to determine the impact of pregnancy on career and force structure as well as whether or not there was a difference between married and single service members (Biggs, Douglas, O’Boyle & Rieg, 2009). The researchers surveyed 415 active duty women, predominantly Navy (95%) and enlisted (94%), during the postpartum period. Of the participants, 62% were married and 38% were single. Singles were more likely to report an unplanned pregnancy (82%), lack of support from their command structure (20%) and a lack of involvement of the father (22%). In both groups, participants reported a 20% complication rate during pregnancy (mostly preterm labor) and that 70% of the fathers in both groups were active duty servicemen. The authors concluded that there was a high potential for disruption of the individual, family and organization as a result of high rates of unplanned pregnancies, complications and single parenthood.

The research summarized above demonstrates that postpartum women are vulnerable to adverse mental and physical health conditions. In particular, postpartum women are at increased risk for experiencing depression, anxiety, fatigue, pain, and decreased functioning. Furthermore, these problems may be exacerbated by inadequate social support. It is unclear how these known factors may affect active duty women’s ability to meet mission requirements including fitness standards. This again points to the need for further research on the lived experience of women as they prepare for their fitness assessment. This type of research would help to provide a better understanding of unique aspects of the health and wellbeing of active duty women.

Gaps in Knowledge

Overall the literature indicates that most active duty and civilian women do not reach pre-pregnancy fitness levels by 6 months postpartum. However, active duty Air Force women must achieve a certain level of fitness in order to pass their fitness assessment by 6 months postpartum.
or risk potential adverse employment actions. The few studies involving U.S. military women indicate that active duty women may struggle in achieving fitness standards and weight standards after childbirth. Although research studies in active duty childbearing populations are few in number, studies done in civilian populations indicate that women lose aerobic capacity and strength after childbirth. However, no studies were found that specifically address women’s ability to perform the four components of the USAF fitness assessment. Similarly, studies also reveal that excessive gestational weight gain and postpartum weight retention are common; however none of these studies relate this to meeting the body composition component of the USAF fitness assessment.

It is also evident through many studies that the postpartum period in general is a vulnerable time for mental and physical health problems for women. In spite of this, no studies were found that looked at the experience of active duty women in meeting mission requirements including fitness standards at 6 months postpartum. It is unclear how preparing to meet fitness standards may affect overall mental and physical health in USAF women who are already at increased risk for depression, anxiety, and decreased physical functioning.

The existing literature does not explain the lived experience of active duty women who are training for the Air Force fitness assessment during the first 6 postpartum months. Furthermore, the literature does not reveal how these experiences relate to illness or what nursing interventions could facilitate a healthy return to optimal fitness. The question remains: What is it about this experience that may make active duty postpartum women struggle to meet fitness standards within the specified time frame, and how could nurses facilitate their success and prevent adverse health outcomes? To answer this question, it is first necessary to understand the phenomenon of training for the Air Force fitness assessment as it is experienced by active duty
postpartum women. The results of this study will help nurses to understand the experience of active duty women who are training for the Air Force fitness assessment after childbirth. Developing a shared understanding of this experience could further inform nurses about how this experience may increase active duty women’s vulnerability to illness and, in turn, how nurses could plan interventions to mitigate this vulnerability.
CHAPTER THREE
RESEARCH DESIGN AND METHODOLOGY

Study Design

This was a qualitative study. The design and methodology specifically used was interpretive phenomenology as informed by Martin Heidegger. Phenomenology was selected because it is concerned with interpreting the meaning of a phenomenon as it is experienced by an individual. It allows for a deep understanding of a particular phenomenon and the meaning of being human within that phenomenon (Munhall, 2012). Since the purpose of this research was to develop a deep understanding of the lived experience of active duty women who are trying to meet Air Force fitness standards postpartum, a phenomenological approach was deemed most appropriate.

Phenomenology began as a philosophical movement as a way to find or describe the true manifestation of phenomena (Dowling, 2007; Earle, 2010). Edmund Husserl, who is considered to be the founder of phenomenology, was concerned with determining the “true essence” of a phenomenon and thought that the best way to do this was to derive it from a person’s subjective view while “setting aside” the observer’s preconceived notions of the phenomenon. This “setting aside” of preconceived notions and experience on the part of the observer is commonly referred to as “bracketing” (Creswell, 2007). In other words, Husserl thought the true essence of a phenomenon was obtained from an objective review, achieved by bracketing the observer’s prior experience, through a process of reductionism of the subjective experience of a phenomenon (Dowling, 2007).

Martin Heidegger, who studied Husserl’s work, also thought that a phenomenon must best be understood through how an individual experienced it. However, he did not agree with
Husserl about bracketing the experience of the researcher in order to obtain an objective view of the subjective data. Heidegger instead believed that observers understand the meaning of an individual’s experience through the lens of their own experiences which cannot and should not be bracketed. Therefore, Heidegger maintained that the true meaning of a phenomenon is elicited from the interpretation of the described experience of a phenomenon. Heidegger brought this notion of interpretation to phenomenology by combining hermeneutics (that is, the interpretation of the text of a given story) with phenomenology, and thus veered away from Husserl’s descriptive phenomenology. Heidegger’s departure from Husserl’s notion of bracketing has led to the development of two predominant types of phenomenology: descriptive (objective) and interpretive (subjective) (Annells, 1996). Consequently, it is necessary to know which philosophic form of phenomenology is used to guide a research study in order to understand how the methodology guides data collection and analysis, and how the interpretation can be critiqued.

**Philosophy of Heidegger**

Heidegger’s philosophy is fundamentally concerned with the question of the meaning of being or what it means to exist. With his work Heidegger caused a paradigmatic shift in the general philosophical thinking of his time from epistemological, or how do we know what we know, to ontological, or what it means to exist or be human (Leonard, 1994). This was a departure from the positivistic view of subjective and objective truth that had been guiding scientific investigations for centuries. Heidegger thought that it is necessary to inquire into the meaning of existing (as a Being itself) before any kind of positivistic investigation of that being can be done (Heidegger, 1927/1993). He further believed that an investigator cannot understand
meaning by observing from outside the world of that which is being investigated (Leonard, 1994).

Heidegger explored the question of what it means to exist and articulated his philosophy surrounding this question in his work entitled *Being and Time*. Heidegger thought that a being (person) questions his or her own “being in the world” already with some awareness of “being in the world”. This is what it is to exist as a human or what Heidegger called *Dasein* (Krell, 1993; Heidegger, 1927/1993). Heidegger believed that in order to investigate something or “a being”, a phenomenon, it is necessary to understand that “being” through an inquiry into what it means for that phenomenon “to be”. Moreover, in order to ask the question of what it means “to be”, the investigator must already be aware of the existence of that “being” in its context. Therefore, the investigator must have prior knowledge of that which is being investigated, and this prior knowledge becomes part of the meaning derived from the investigation. For this reason, when trying to understand a phenomenon the investigator cannot separate or “bracket” this prior knowledge but must acknowledge it and be aware that this fore knowledge is necessary to interpret meaning (McConnell-Henry, Chapman, & Francis, 2009a).

Heidegger believed that human beings naturally understand all things through a process of interpretation rooted in language and cultural traditions (Leonard, 1994). He brought to phenomenology *hermeneutics* which stems from the Greek word hermeneuein meaning to interpret (hermeneutic, n.d.). Although hermeneutics was originally used to interpret theological scriptures, Heidegger used it as a basis for interpretation to understand all human activities (McConnell-Henry, Chapman, & Francis, 2009b). Hermeneutic, or interpretive, phenomenology is the type of phenomenology that is grounded in Heideggerian philosophy.
In bringing hermeneutics to phenomenology Heidegger clearly departed from Husserl’s ideas of phenomenology and was even criticized by Husserl for “corrupting” phenomenology (McConnell-Henry, Chapman, & Francis, 2009b). However, Heidegger was still influenced by Husserl’s notions of studying phenomena by “going to the things themselves”. Heidegger applied this notion to his ideas of understanding the meaning of a phenomenon as it exists (Krell, 1993). Heidegger believed that if an investigator was to understand the meaning of a phenomenon then she needed to understand what it means for the phenomenon to exist as it presents itself. The investigator must be open to the phenomenon as it presents or shows itself and consider it through reflective thinking (Heidegger, 1951/1993).

Heidegger further thought that the understanding of what it means for a phenomenon to exist must also include an understanding of how that existence, or Dasein, is manifested in time. He believed that Dasein is not rooted in chronologic or linear time but is infinite. Events that are part of an existence are not thought of has happening at a given time but as something or a time in the existence that “stands out” from the general flow of things (McConnell-Henry, Chapman, & Francis, 2009a).

**Application of Heidegger’s Philosophy to Research**

The tenets of Heidegger’s philosophy described above have been applied to research extensively. It is particularly appropriate for use in nursing science when a deep understanding is sought about the meaning of a particular experience for participants in a given study (Benner, 1994). Nursing practice involves planning interventions that optimally improve the overall health and wellbeing of an individual. To be successful, nursing interventions that intercede within a given phenomenon should be planned with an understanding of how that phenomenon is experienced in the world. This can be, and has been, done through the rigorous, iterative,
reflective process of interpreting the text of a person’s described experience facilitated through a dialogue between the participant and the researcher. It is this type of research methodology that has been informed by Heidegger.

There are many examples of the use of methodologies informed by Heidegger in nursing research. Two of these will be summarized to illustrate the use of these methodologies. In the first example, Foglia, Grassley and Ziegler (2010) studied the experiences of 10 Pediatric Intensive Care Unit (PICU) nurses who left their jobs. The participants in this study were interviewed about their work experiences as they related to leaving their jobs in the PICU, and these interviews were transcribed into text. The researchers analyzed the text using a hermeneutic analysis informed by Heidegger. The authors discovered an overall pattern of unrelieved job stress that described the meaning of the participants’ experience. This overarching pattern was composed of three major subthemes: nature of the job, insufficient resources, and negative perceptions of manager/team leaders. From the analysis and findings of this study the authors concluded that there existed a tension between human factors and the PICU work environment that led to distress among the participants which resulted in them leaving their jobs. Based on these findings, the authors recommended changes to the work environment that would reduce factors that cause distress.

In a second study, Brett (2004) explored the experiences of support in six parents of severely disabled children. As in the first example, data were obtained through interviews and then transcribed into text. The text was analyzed using an interpretive phenomenology methodology informed by Heidegger and described by van Manen. This involved an iterative reflective process to discover five themes that emerged which describe the experience of the participants. These five themes were: parents’ feelings about support, the journey to accepting
support, support as a loss, disability and the parent, and the supportive relationship. The author concluded that the experience of parents of disabled children in accepting support was a complex phenomenon that included feelings of failure and vulnerability. The author also concluded that the results of the study could be used by nurses to provide necessary and meaningful support that was helpful to the parents of severely disabled children.

Similarly to the exemplars above, the interpretive form of phenomenology as described by Heidegger was the methodology used for this current study. Researchers who use phenomenology for their studies seek a deep understanding of the essence of a phenomenon and therefore are not guided by a specific theoretical framework but instead by a particular philosophical way of understanding. The guiding philosophy as described by Heidegger informed sampling of participants, data collection, data analysis and the description of research findings for this study.

Sample

Participants for this study were sought from the Military Treatment Facilities (MTFs) at two Air Force bases (AFBs): Fairchild AFB, Washington and Travis AFB, California. Fairchild AFB was chosen due to its proximity to the researcher but had a relatively small pool of potential participants. Therefore, Travis AFB was chosen as a second site because it was the closest larger Air Force medical center to this researcher and had a larger postpartum active duty population.

Advertising to recruit participants for the study consisted primarily of distributing flyers (see Appendix A) at various venues on each base where potential candidates might be on a regular basis. Several areas within the MTFs were identified as having periodic contact with potential participants. These included women’s health clinics, pediatric clinics (where women bring their infants for frequent well-baby check-ups), primary care clinics, and new parent
support programs. Staff members in these areas were given information about the study and flyers that could be distributed to prospective participants. In addition, flyers were posted in the fitness centers and Health and Wellness Centers (HAWCs) at each base. Flyers were also distributed at the Child Development Center on Fairchild AFB. Lastly, flyers were distributed by email from the staff at the HAWC to the unit fitness monitors at each base.

Prospective participants were asked to contact the researcher directly via email or phone if interested in participating in the study. Once the researcher was contacted, she asked each potential participant questions to ensure eligibility (a description of eligibility criteria follows). After determining eligibility, the researcher sent the consent form to the prospective participant to review via email. If the potential participant indicated that she still wanted to participate after reviewing the consent form, then an appointment for a face-to-face interview was arranged at the time and place of the prospective participant’s choosing.

As guided by Heidegger’s philosophy, it is necessary to seek participants who have experienced the phenomenon under investigation. Also, purposive sampling is the appropriate method for phenomenology studies (Creswell, 2007). For these reasons a purposive sampling method was used for this study. Any active duty postpartum woman from the sites described who met the eligibility criteria was invited to participate in the study. Inclusion criteria were: women who were active duty members of the USAF, were fluent in reading, understanding and speaking English, were 6-18 months postpartum after a third trimester delivery, and had taken their fitness assessment at around 6 months postpartum. Exclusion criteria included: women who were not on active duty status in the USAF, women who had a pregnancy that ended prior to 28 weeks gestation, and women who were not fluent in English. A total of 14 participants were recruited and interviewed for the study; 4 from Fairchild AFB and 10 from Travis AFB.
Typically the number of participants needed for an interpretive study cannot be fully known until analysis has begun (Crist & Tanner, 2003). Generally the number of participants required for phenomenology studies is small, around 6-10 (Creswell, 2007). Recruitment efforts for this study were stopped after interpretations of 7 of 14 accomplished interviews were completed. Based on these initial interpretations and the interviews conducted on the remaining seven participants, the research team determined that no new information was being elicited and, therefore, additional data would not be needed for a full interpretive analysis.

**Data Collection**

Data were obtained through audio recorded face-to-face interviews with participants. Participants were asked to choose a location for the interview that was convenient for them. All the participants chose a location on base - primarily their work place, a room in one of the MTFs, or a study room at the base library. Informed consent (see Appendix B) was obtained from the participants prior to beginning the interview. In addition, participants were asked to choose a pseudonym to go by during the interviews. The purpose of the pseudonym was to maintain confidentiality of data. Interviews lasted from approximately 12 to 36 minutes and were stopped when the participants no longer had anything further they wished to say regarding their experience. The interviews were transcribed by a professional transcriptionist into text for later analysis.

Interview questions for this study were open-ended and broad (see Appendix C). Interviewing for the purposes of obtaining data in a phenomenological study is a unique form of research interview that is directed by the participant but guided by the researcher. As previously mentioned, data collection methods for this study were guided by the philosophy of Heidegger. Also as discussed above, Heidegger believed that one must be open to a phenomenon as it
presents itself. Therefore, the purpose of the interview is to allow the participant to tell her story from which the meaning of the phenomenon can be interpreted. This type of interview transpires as a conversation so that unexpected information can be uncovered. The role of the interviewer is to facilitate the telling of the story by establishing a dialogue. It is important for the researcher to remain open to the telling of the story and avoid leading questions so that the participant can describe her own perceptions of her experience.

In addition, each participant was asked to respond to eight specific demographic questions (see Appendix D). The demographic questions were asked verbally at the end of the interview and were not part of the transcript. Responses were recorded into and managed through a computer software database. The purpose of obtaining some demographic information was to be able to describe the group of participants with some context of their background that might otherwise not have emerged with their stories.

Data Analysis

The text from each interview was analyzed for common ideas, patterns, and meaning that emerged. This analysis was done through a methodical approach to hermeneutic interpretation as described by Vandermause (2012). This approach involves several steps:

1) Reading the entire transcript carefully start to finish
2) Re-reading the text line by line
3) Making notes about ideas and concepts that stand out
4) Reviewing notes and observing the general categories while noting frequency of related ideas, position in the text, response to interview questions, and style of response
5) Devising a rudimentary list of emerging patterns of ideas
6) Reviewing transcripts with these general patterns in mind

7) Naming patterns of ideas

8) Writing a summary of the transcript with enough detail or support to convey a plausible and coherent expression of findings. Included in this summary is a retelling of the account and/or a description of emerging patterns, and/or personal thoughts or reactions, and/or interpretive commentary.

9) Summaries of transcripts will continue to build with each analysis and will eventually begin to coalesce into themes and patterns. Transcripts should be re-read and patterns revised in a continuing iterative process.

Analysis was conducted by a research team that was comprised of the primary researcher, two dissertation committee faculty members experienced in interpretive phenomenology, the dissertation chair faculty member, and two doctoral students currently studying interpretive phenomenological methodology. Interpretive analysis of text is best accomplished by a team of researchers because the discussion of interpretations that occurs amongst the team members adds depth and insight into interpretations (Crist & Tanner, 2003). This discussion becomes a dialogue between the research team members who are able to critique interpretations and challenge assumptions. This type of dialogue in turn enhances understanding (Smythe, 2005).

Other members of the research team also completed interpretive analyses of the transcripts which were shared among the team members. This helped to increase the depth of the analysis and the ability of the researchers to find the true meaning of the experienced phenomenon (Crist & Tanner, 2003) thereby increasing the rigor of the study.
Evaluation of Rigor and Trustworthiness

The purpose of qualitative research is not typically to measure and quantify a phenomenon. Qualitative research instead usually involves analysis of complex social phenomena in order to understand, represent, or explain (Pyett, 2008). Therefore, reliability measures used to evaluate quantitative research are neither useful nor appropriate for evaluating qualitative research. Furthermore, qualitative research encompasses a disparate group of methodologies. For this reason, one particular framework could not be used to evaluate all qualitative research. Instead it is necessary to use a framework for evaluation that is consistent with the methodology used in a particular study. In the case of phenomenology, a framework that lies within the realm of the guiding philosophy would be the most useful to evaluate rigor of a study. de Witt and Ploeg (2006) proposed such a framework for interpretive phenomenological research after critically reviewing nursing studies that used interpretive phenomenology as the methodology.

The framework proposed by de Witt and Ploeg (2006) involves five expressions of rigor: balanced integration, openness, concreteness, resonance, and actualization. Balanced integration involves three characteristics: articulation of the philosophical theme and its fit with the researcher and the research topic, in-depth intertwining of philosophical concepts within the study methods and findings, and balance between the voice of study participants and the philosophical explanation. Balanced integration for this study was achieved through maintaining the philosophical concepts of Heidegger during data collection and analysis. In addition, quotes from study participants along with philosophical explanations have been included within the written results.
The second expression of rigor is openness. Openness involves the researcher demonstrating a continuous orientation to the phenomenon of interest through an explicit accounting of the decisions made during the interpretive process. Openness was accomplished through written reflections about decision making during the interpretive analyses. These decisions have been explained in the results section.

Concreteness, the third expression of rigor, has to do with writing the results in such a way that the reader can be situated concretely within the context of the phenomenon of interest and link it with their own experiences. The next expression of rigor, resonance, goes beyond situating within the context of the phenomenon to resonating with the reader. Resonance occurs when the reader intuitively grasps the meaning of the phenomenon and this understanding is juxtaposed with self-understanding. Results for this study have been written in such a way as to try to achieve concreteness and resonance for the readers of the study. This was done through the inclusion of quotations from the original texts that embody the meaning derived by the research team.

The last expression of rigor in this framework is actualization. Actualization occurs when the reader achieves future resonance with study findings. Actualization is an expression that cannot be known at the time of reading the study and, therefore, is difficult to evaluate. de Witt and Ploeg (2006) state that no formal mechanism exists to record actualization. Therefore, the results of the study have been written to promote further thought about the meaning of the phenomenon but whether or not actualization is achieved may never be known.

Responses to the eight demographic questions were analyzed separately from the interpretive analysis of the transcripts. In keeping with the interpretive phenomenology method, no attempt was made to make comparisons based on these demographic categories. The purpose
of this study was to understand the phenomenon rather than to explain it through comparing
groups or finding relationships between variables. Therefore, only descriptive statistics such as
occurrences, averages, and ranges were used to analyze the demographic data.

**Human Subjects Review**

Institutional Review Board (IRB) approval was obtained from both Washington State
University and the USAF prior to conducting any research. Informed consent (see Appendix B)
was obtained from all participants prior to being interviewed. Since this was not an
interventional study, it was anticipated that there would be minimal risk to participants.
However, there was a possibility that participants could have experienced some anxiety in their
recall of preparation for fitness testing. In addition, sensitive issues, such as abusive
relationships or suicidal ideation, could have potentially surfaced during the interviews that
would have necessitated reporting to human protective agencies or referral to health care
providers. Statements regarding mandatory reporting requirements were included on the
informed consent as well as in the introductory script used before each interview (see
Appendices B and E). None of the participants reported or indicated that they were harmed in
any way by participation in the study. Also, there were no disclosed sensitive issues during the
interviews that required reporting.

Coercion was a possible concern in this study in that the researcher was of a higher
military rank than all of the study participants. Therefore, to avoid possible feelings of coercion,
the researcher did not seek informed consent or conduct interviews while in uniform. In
addition, the researcher did not include any participants who were under the supervision of the
researcher or who sought care from the researcher while working in the capacity of a provider at
the MTF.
The researcher maintained confidentiality of participants through de-identification of data and secured data in locked cabinets and on a password protected website that is accessible only to the researchers involved with the study. Participants were all asked to choose a pseudonym and only the pseudonym was used to identify audio files, transcripts, and interpretations. Only the consent forms contained the actual name of the participants. Furthermore, all data (electronic, hard copy, and audio recordings) will be kept in a locked file cabinet until 3 years after dissemination of study results at which time they will be destroyed.

**Pilot Study**

A pilot study was conducted in collaboration with two associate investigators of the present study, Dr. Severtsen and Dr. Vandermause. The purpose of the pilot study was to determine whether the methodological design and procedures, including recruitment plans and interviewing processes, supported the research question of this study. For the pilot study, IRB approval was obtained from Washington State University and from the designated USAF clinical research reviewer. Fairchild AFB was the only site used for the pilot study.

Participants for the pilot study were recruited through flyers distributed by staff in the pediatric, women’s health, and family health clinics of the Fairchild MTF. A total of three active duty women were recruited and interviewed about their experiences training for the USAF fitness assessment. Interviews were conducted in the same style and consisted of the same open ended questions that were later used for the full study (see Appendix C). No specific demographic questions were asked in the pilot study. The interviews were audio recorded and transcribed into text. The text was then analyzed using interpretive phenomenology by a qualitative research team that included the PI and the two associate investigators listed above.
Several common ideas emerged during the interpretative analysis of these three interviews, but the data were not enough to understand the full meaning of the experience for a larger group of participants. It was determined by the research team that more interviews were needed from other women who may report different experiences than the participants already interviewed. However, the research team did learn that the research design and processes were adequate to respond to the research question of the full study. Since the research design and processes for primary analysis remained unchanged after the pilot study, the transcripts and interpretations of the data from the pilot study participants were included in the analysis of the full study.
CHAPTER FOUR

RESULTS

Background and Demographics

The stories of the 14 women who participated in this study and the 3 women from the pilot study were all unique in some respects; yet, much of what each participant said could be found in the stories of other participants. All of the participants were active duty women of the USAF at the time of the interview. They came from a variety of backgrounds, occupations, and ranks. However, despite their differences, their stories shared common ideas and themes that pointed to a pattern from which the meaning of the phenomenon could be discovered. The context and backgrounds of the participants’ lives were derived from both the interviews and the specific demographic questions that were asked after the interviews (see Appendix C). A review of these demographics follows.

Fourteen participants were interviewed for this study; four were stationed at Fairchild AFB and 10 were stationed at Travis AFB. Of the 14 participants, 4 had cesarean deliveries and 10 had vaginal deliveries. During the first six months postpartum, four of the participants exclusively breastfed their infants, one exclusively bottle fed her infant and the remaining nine used a combination of breast and bottle feeding methods. Eleven participants reported doing some kind of physical training during pregnancy with walking being the most commonly cited form of preparation. All of the participants passed their fitness assessments prior to getting pregnant and all but one passed their tests at 6 months postpartum. See Table 2 for a summary of the remaining demographics for the participants. In addition to the 14 participants discussed above, interpretations from the 3 participants of the pilot study were incorporated into the final analysis of this study. All three of the pilot study participants were stationed at Fairchild AFB.
Although the pilot study did not include a demographic questionnaire, the participants shared in their stories that they were all first time mothers, one had a cesarean delivery and two had vaginal deliveries.

Table 2. Results of Selected Demographic Characteristics of Participants

<table>
<thead>
<tr>
<th></th>
<th>N = 14</th>
<th>Age in years (at time of interview)</th>
<th>Number of Children</th>
<th>Pre-pregnancy Fitness Score* (N=13)</th>
<th>Postpartum Fitness Score*</th>
<th>Resumption of Physical Training (weeks postpartum)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td></td>
<td>21-35</td>
<td>1-6</td>
<td>82-95</td>
<td>70-100</td>
<td>1-14</td>
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<tr>
<td>Average</td>
<td></td>
<td>27.5</td>
<td>1.5</td>
<td>89.5</td>
<td>89.3</td>
<td>8.4</td>
</tr>
</tbody>
</table>

* reported by participants; one pre-pregnancy fitness score was unknown

Common Ideas and Themes

As previously mentioned, despite the diversity of backgrounds of the participants, their stories resonated with similarities. Most of the participants described their experience in preparing for the fitness assessment during their first six months postpartum as difficult and stressful. In fact, most stated it was much more difficult than they had expected. Interestingly, two participants stated that they were not particularly distressed about passing the fitness assessment by 6 months postpartum. However, they did describe their experience as difficult in the context of other issues such as getting back down to pre-pregnancy weight and being motivated to exercise. A noteworthy exception was that one participant in the pilot study described the experience as easy, and that she felt very successful at training for the fitness assessment after childbirth.

A common concern expressed by the participants was related to physical difficulties in preparing for the fitness assessment, particularly loss of core strength and joint pain. Eleven of the participants related that they were not able to do much physical training in the first 6-8 weeks
postpartum, usually because they were advised not to by their medical provider. Seven participants explained how by the time they can begin to train, the 6 months post-childbirth to prepare is whittled down to 4 months, and that this does not seem like enough time to achieve the necessary weight loss and conditioning to perform well on the fitness assessment. In addition, six participants said they had perinatal complications such as cesarean wound complications, musculoskeletal pain, and the development of a chronic medical condition, all of which added to their struggle in preparing for their assessments. Breastfeeding was a physical and emotional factor that was part of the stories of eight of the participants. Some of the concerns related to breastfeeding and fitness test preparation included noticeable decreased milk supply with intensive dieting and exercising, difficulty in scheduling physical training around breastfeeding times, and increased stress with breastfeeding difficulties.

In addition to physical complications, many participants revealed that they experienced emotional difficulties. Three of the participants described feeling sad or depressed, which made it even more difficult to be motivated to train. One participant mentioned experiencing lowered self esteem as a result of the difficulties she had with losing weight gained during pregnancy. Eleven expressed feeling very worried or afraid of failing the fitness assessment and the possible career implications that this would have. Also, support (or lack of support) from spouses, extended family, supervisors, co-workers and friends was a common element in the stories. Lastly, especially for the first-time mothers, transitioning to motherhood was a dominant part of their stories that was inextricably intertwined with their experience in training for the USAF fitness assessment.

Although the above factors were common elements in the participants’ stories, the overall analysis consisted of more than identifying common factors and elements. The full analysis was
an interpretive, iterative process that began with the initial interpretations in the pilot study and built with each subsequent interpretation. Through this process, the researchers not only gleaned common elements but also emerging common ideas and patterns.

The research team identified several common ideas that emerged after the interpretations of the initial three participants of the main study and the three participants of the pilot study. These ideas were also noted in subsequent interpretations. These were: coping with physical challenges, preparation versus lack of preparation, seeking/not seeking support, perceiving baby as help or hindrance, and striving to perform in role of Airman and role of mother. Additional common ideas were identified with the subsequent interpretations of four more interviews. These included: perception of asking for special treatment, dealing with the unknown, and needing to stay/feeling trapped in their job for financial concerns. These common ideas were grouped into three themes which were: reframing sense of self, feeling of belonging to a group, and living in transition.

Although the above ideas and identified themes were common in the stories and important aspects of the participants’ experiences, they still pointed to a deeper meaning of the phenomenon of interest. Through iterative reflection, critique and continued interpretation of all of the transcripts including the remaining seven transcripts, a meaning common to all of the stories was derived by the research team. Two overarching patterns were identified: Striving to Perform under Pressure through Profound Life Transitions of Childbirth and Seeking Understanding from Others. The research team determined that these patterns describe what it means to train for the USAF fitness assessment after having a baby. Further explanation of these patterns follows.
Pattern 1: Striving to Perform under Pressure through Profound Life Transitions of Childbirth

The women who participated in this study were all active duty airmen and, as such, belonged to the military culture and specifically to that of the USAF. This is a culture with its own language, expectations of its members, and ways of living. Active duty members are indoctrinated into this culture where performance of the mission is paramount and making certain sacrifices is expected. Failure to perform the mission as expected leads to discharge from the service. The USAF as an institution has made it clear through policy that one requirement of satisfactory mission performance is to pass a periodic fitness assessment. In this culture, women are in the minority, although the USAF has the highest percentage (almost 19%) of women in its active duty force compared with the other branches of the U.S. military (U.S. Department of Defense, 2012). Active duty women are primarily of childbearing age and going through childbirth is a common experience for them. Although transitions such as moving, changing jobs, and deployment are a significant part of the USAF culture, the life transition of childbirth is unique compared to these other transitions. All of these facets of existence provide context and meaning to the experiences of active duty airmen as they prepare for their fitness assessment after childbirth.

The first pattern identified through the interpretive analysis of the participants’ self-described experiences is *Striving to Perform under Pressure through Profound Life Transitions of Childbirth*. Figure 1 below illustrates various aspects of this first pattern. The three main components of this pattern (striving to perform, under pressure, and profound life transitions) all interrelate to portray this incredibly complex phenomenon. This pattern encompasses ideas that were common in the stories of the participants.
Figure 1. Illustration of *Striving to Perform under Pressure through Profound Life Transitions of Childbirth*

**Common idea 1: Striving to perform**

The participants in this study were all striving to perform both as an Airman and a mother. Typically they struggled as they tried to balance their role as mother with their role as
Some of the women were able to integrate these roles while others perceived their roles as separate, opposing forces to be reckoned with. They wanted to be a good mother and a good Airman. However, most of the women did not want just to meet expectations but wanted to excel. Denise (note that all participant names are the pseudonyms they chose), who was a first-time mother, describes how overwhelmed she felt in trying to perform well in her various roles.

**Denise:** “So I felt like I had to do – like be great at everything. At my job, come back to work, getting ready for a PT test, with my husband, with my daughter, being a mom, being a wife. It’s just so much. I felt like it was so much. I was so overwhelmed.”

Chevelle, another first-time mother, desires to be the best mother and the best Airman she can be but wonders how she will be able to excel in both roles simultaneously.

**Chevelle:** “…at the same time, I think I’m working towards being a better parent. That’s like my priority of anything. More than – I mean, I love my job. The Air Force is wonderful, but it’s kinda like, um, be the best parent you can be or be the best Airman you can be. Which one? Or how do you do both?”

As they attempted to perform well in their various roles, most participants experienced a great deal of stress and frustration, almost to the point of despair for some. This was particularly prominent in the experiences of women, such as Freddie, who were first-time mothers.

**Freddie:** “I had to worry about getting back into work and remember everything having to do with work and having to deal with the baby. You know, not that I didn’t want to deal with her, but it was hard to try to fit everything in together since I’m, you know, a brand new mom. So, ah, having to schedule work and baby time, especially with breastfeeding, ’cause I had also decided to breastfeed. It was crazy trying to fit a PT [physical training] schedule in. So it was really frustrating.”

It might be assumed that women who had previously experienced childbirth would have already learned how to strive to perform in their various roles simultaneously. However, even the three participants who were not first-time mothers felt frustrated and stressed with meeting the needs
of an additional family member while striving to perform well in their fitness requirements. For example, Samantha, who was the only participant with more than two children, said:

“Like it was definitely the first week that I had come back to work. Um, and failing and being so far behind everybody else was definitely something that, um – like I said, it was just a mental stressor constantly, um, weighing on your mind. Like I want to do better. I know I can do better. Um, but expectations aren’t always where, um – where maybe they should be”

In terms of striving to perform as an Airman, many of the participants, particularly those who were supervisors, felt that they needed to excel in their physical fitness preparation and assessment in order to maintain credibility with those whom they supervise. In the USAF, active duty members very quickly become supervisors, and supervisory responsibilities typically increase as their careers advance. Supervisors in the USAF are required to provide formal performance feedback and evaluation to their supervisees (USAF, 2013). One of the major performance measures that they must evaluate is fitness assessment performance. Thus the perceived need, and from that the aspiration to excel in their physical fitness performance, becomes a higher priority. Several of the participants who were in supervisory positions (called Non Commissioned Officers in Charge [NCOICs]) in their units elucidated this aspect of striving to perform:

Freddie: “I have to be an example to my troops. And if I’m failing my PT test, what kind of an example am I giving my troops? You know? And if – I have to expect from them what I expect from myself.”

Wilma: “I didn’t want to be seen like that. I didn’t want to be seen as somebody who was struggling as much as what I was to my subordinates...Because I felt I would lose credibility with them.”

Samantha: “I mean, just a constant worrying about am I going to be able to pass my test? Am I going to be able to go out there and do it? Because if I don’t pass my test, then, of course, everything else is weighing on it...even a job as [a supervisor], if you can’t pass your PT test, you’re not fit to – to manage other people. Um, so that stress
played a big role in it. And then being able to take care of the baby at home, um, with that stress.”

Furthermore, striving to perform well as an Airmen and a mother went beyond just a personal desire to be a good performer and supervisor. The participants felt they needed to perform in both roles in order to provide for their family. First-time mothers realized they could no longer be only concerned about themselves, and women who already had a child now had an additional family member to be concerned about. Selphie, a first-time mother, and Emily, who just had her second child, express these concerns:

Selphie: “But after having my daughter, it was more of a – more concerning because I have more people to worry about that I’m taking care of...So my family’s more important than myself in a way...So I need to make sure that I do this for my family”

Emily: “Cause just having a baby and financial issues have changed. And it’s like what if I fail? What am I going to do?...It’s frightening.”

Common idea 2: Under pressure

It is possible that “striving to perform” is part of the experience of many new mothers or mothers who also have careers. However, active duty women are faced with performing well on a physical fitness assessment within a designated time frame or risk not progressing in their careers. This requirement adds external pressure to their endeavors to perform well. This pressure is an experience that is much different from those of childbearing women in most civilian careers. How do childbearing active duty women deal with this added pressure and how does it impact their own health and that of their children?

The vast majority of the participants in this study felt that 6 months was not enough time to prepare for their fitness assessment. This was true not only for the women who stated that they have never really enjoyed exercising, but also for the women who had always previously
enjoyed exercising and those who continued exercising during pregnancy. A sense of unfairness in the USAF policy to take the fitness assessment at 6 months postpartum regardless of type of delivery or any complications they may have experienced was apparent in the stories of many of the participants. The participants were frustrated at the added pressure they had to bear due to the time constraints to perform the fitness assessment. Excerpts from some of the participants’ stories illustrate this:

Marie: “I wasn’t able to start working out until eight or nine weeks because of my Cesarean and the complications with it.”… “And so that doesn’t give me very much time to get back into shape –...-- after I’d been pregnant for nine months. And then really I get less than four months to get ready to take a test. Um, so I would probably extend that time period maybe to nine months instead of six months since it takes nine months to get you that way.”

June: “And I was stressing because I wanted to make sure I passed my PT test”… “It just stressed me out ‘cause of the time. I felt like I needed more time. I felt like four months just wasn’t enough”

Chevelle: “You know, you might not be the person that’s running in the front of the line anymore. You may fall back a little bit. You’re just not there yet. You still have to build it up. It just kinda seems like – I don’t know. It just seems rushed, too, I think. I felt very rushed. Very pressured and uncomfortable.”

Wilma: “And every time I went to talk to somebody, it was kind of like, well, just give it more time...I don’t really have time. You know, I have my test in a couple weeks – or months at the time. It was like I don’t have it.”

The pressure to be physically ready to perform the fitness assessment within a given time frame was not the only pressure that the participants endured. They also felt the pressure to pass the fitness test or risk the negative impact that failure could have on their careers. Many of the participants were extremely worried about, even afraid of, failing the fitness assessment. This “fear of failure” contributed to the pressure they experienced in preparing for their fitness assessments and inevitably increased their feelings of stress.
Marie: “It was just frustrating. Um, and it makes you really anxious thinking – like I’ve never failed a PT test. So to think that I don’t have very much time to prepare for this and my body’s changed a lot –... So it’s just really scary that you could think it’s going to affect your career because you had a baby in the military.”

Penelope: “It wasn’t just the PT test, but that definitely was up there at the top... ah, we will, ah, get kicked out, I mean, nowadays if you fail your PT test... It’s a career-ender. So the rest of the stuff other – outside of the baby – was concerning, but it wasn’t the end of anything. You know what I mean? “

Emily: “They kick people out right and left for failing the test” ... “You are looked down on if you fail.” ... “So I was under a – an enormous amount of stress trying to prepare for that test.”

One thing that is quite concerning from a health care standpoint is that some of the participants responded to this added pressure by engaging in behaviors that they themselves felt were unhealthy but necessary in order to pass their fitness assessments. Some of these behaviors included pushing themselves in physical exercise to the point of potential injury, extreme dieting, and stopping breastfeeding. For example, Marie and Sarah, one of the participants from the pilot study, stated they thought that they might have pushed themselves too hard.

Marie: “And I would – I pushed myself...much harder than I probably should have, like to exhaustion... and so I think that I maybe – I was – I was told from physical therapy, ‘You probably shouldn’t be doing full sit-ups yet.’ However, I was because I wanted to be – make sure that I could do them.”

Sarah: “And my mom’s – my mom’s concern over my health is because of my health issues..And so her fear is that if I get stressed out, I’m malnourished. I’m overtired. Any numerous amount of things. I have a flare-up. My husband’s deployed. Where does that leave me with a baby?..So that’s – I mean, that’s where she comes from whereas I kind of – I push myself a little bit harder than what she probably would like.”

And Freddie, who struggled to meet the abdominal circumference component of the fitness by 6 months postpartum, shares some of the things she tried out of desperation.

Freddie: “Well, I was doing some like extreme things like just eating salads and running, you know, twice a day... Eating grapefruit juice. Like all that stuff. I was doing whatever I could, even if it sounded silly. And then...as I got closer to the six
months, I wasn’t losing the weight as fast anymore... So I started putting, um, plastic around my belly. All that stuff. You know, all the mix that you hear, I did it.”

Finally, Macy who was dismayed about not getting down to her pre-pregnancy weight as quickly as she was expecting, discusses how she even quit breastfeeding to lose weight. She later shared that she felt stopping breastfeeding did help her to lose weight.

**Macy:** “Cause I know that a lot of the times you’re supposed to lose weight breastfeeding, but I’ve heard sometimes the hormones cause women to retain – you know, it prevents them from losing weight because then they won’t have enough fat to produce milk or whatnot. So that’s part of the decision of why I quit trying to even breastfeed after about six weeks.”

Engaging in unhealthy behaviors in order to pass the USAF fitness assessment is not necessarily unique to active duty childbearing women. However, it is unknown how engaging in these behaviors during the postpartum period when they may already be vulnerable to illness might impact not only their own health but that of their babies’. Secondly, postpartum women who are trying to breastfeed have this as an added concern as it relates to their own and their babies’ health. The current health care literature suggests that breastfeeding is beneficial for both mother and baby and ultimately helps with weight loss (World Health Organization, 2011). However, whether or not breastfeeding facilitates weight loss to the extent necessary to perform well in a fitness assessment at 6 months postpartum is unknown.

**Common idea 3: Profound life transitions of childbirth**

As demonstrated above, the participants of this study describe experiences that indicate they were “striving to perform under pressure”. However, this is not necessarily a unique experience for airmen only after childbirth. Other airman, including men and non-childbearing women, may live the experience of “striving to perform under pressure” as they prepare for a fitness assessment. One Airman described his experience in trying to perform well on the fitness
assessment as a difficult struggle. He also talked about the pressure of potential detriment to his career if he failed (Trimarchi, 2013). However, what makes the experience of childbearing airmen unique is striving to perform under pressure while going through a profound life transition. This integral aspect of the pattern seemed to be paramount in the experience of these women.

The life transition that women undergo as a result of childbirth is multifaceted and powerful. It involves physical, emotional, and social changes that cannot be equated to any other life transition. It has been argued that the transition to parenthood causes great disruption to life, involving stressful and possible maladaptive changes in new parents (Cowan & Cowan, 1995). Transition to motherhood has also been described as a transforming experience (Nelson, 2003). Therefore, it is not surprising that transitions after childbirth played so large a part in the experiences of postpartum active duty women who are preparing for their fitness assessment. The participants described both physical and emotional changes that they were trying to cope with while also trying to prepare for a fitness test.

While initiating physical training in preparation for their fitness assessments, most of the participants were surprised at how much physical conditioning they had lost during the course of their pregnancy and initial postpartum period. They were often dismayed when they first attempted to go for a run or do push-ups and sit-ups after having their babies. They typically discovered that they could not come close to achieving what they had been able to do prior to pregnancy. This was expressed even by participants who had vaginal deliveries without significant complications.

**June:** “‘Cause I’d had a little bit of extra weight from the pregnancy...So I had that more to factor in. ‘Cause I didn’t have that before I was pregnant. And I just remember having trouble with my run ‘cause I – I didn’t have like the, um – my lungs just weren’t...”
...” it’s almost as if I had just basically lost all my exercise endurance and stamina.”

Jessica: “I – I had no – I had no idea. And they don’t – nobody – nobody kind of tells you that beforehand. Nobody tells you that you’re going to, you know, lose muscle strength. I mean, you expect to lose some ’cause you can’t – you can’t sprint obviously...But not to that extreme.”

Another participant noted a struggle with physical changes even though she was one of the few participants who indicated that she had not really worried about actually passing her fitness assessment.

Denise: “So it was a struggle just to find the motivation. And my whole body changes and everything.”...“Oh, definitely my, um – my sit-ups. That was like – that has – and it has never been a struggle for me. And, um, it was – it was so hard. It was probably like the hardest ever.”

And Samantha, who has gone through childbirth as an active duty woman multiple times and (one might assume) would well know what to expect, was also surprised at how much conditioning she had lost.

Samantha: “And I didn’t even think that I was that far out of shape until you go to prepare and you take this practice test. Um, and I think those were the eye-openers.”

This shock and dismay also occurred with women like Selphie and Wilma who considered themselves to be good runners prior to pregnancy.

Selphie: “And that’s the more important thing for me to get used to is going back to running. And I was really good at running before I had my child... So I’d like to get back to the way I used to run, but that’s going to be a while.”

Wilma: “I had no – no idea that it would be so hard to – to even do the simplest of things... And I loved running. It was always something that was kind of easy for me that I enjoyed doing. And even now, a year later, I still have some difficulty with...that part of it.”

And finally, as might be expected, the participants who had cesarean deliveries, such as Marie and Penelope, really struggled:
Marie: “But when you have a Cesarean, they like rip all of those muscles apart when they just slice through ’em. And so building those back up isn’t as easy.”

Penelope: “…but the very first time, um, was probably – was the first time I attempted to do a pushup was about eight weeks, um, postpartum. And, um, the first time I went down, it was no problem. But when I went to push up, my entire core sunk down and I felt like I had no control over it. And that was very surprising to me”

As exemplified above, physical transitions associated with pregnancy and childbirth were a significant part of the experiences of almost all of the participants regardless of their situations. The fact that most were so surprised by their loss of physical conditioning indicates that these women may not be receiving enough information from health care clinicians about what happens to their bodies during pregnancy and how that will affect physical reconditioning after childbirth. It also could be an indication that not only the women themselves but also their supervisors may have unrealistic expectations when it comes to physical conditioning after childbirth.

In addition to loss of physical conditioning, many postpartum women must adjust to physical changes related to breastfeeding. Breastfeeding surfaced as a common concern for the participants in this study in several ways. First was related to figuring out how to schedule physical training around feeding times. Elizabeth describes how this was an issue for her. Her spouse, who was also active duty, does his physical training first thing in the morning. He wonders why Elizabeth doesn’t just wake up early to train while the baby is still sleeping. Elizabeth explains that it just isn’t that simple.

Elizabeth: “And so just with, I think, the dynamics of breastfeeding, like I can’t go all night without feeding her and just get up in the morning and go run. It just – it doesn’t work. You know, it’s painful. Um, it’s not enjoyable.”

Furthermore, breastfeeding was a factor not only in scheduling training but in how to prepare while maintaining milk supply. Some of the participants noted that when they exercised too vigorously or reduced their nutritional intake too much their milk supply decreased. It was hard
for them to find a balance between maintaining milk supply and preparing adequately for the fitness assessment.

**Freddie:** “...during that time, I’m guessing because of the stress, I wasn’t able to produce enough milk for the baby...So I had to supplement with formula, which was also more stressful. Because I didn’t want to do that, but I wasn’t left with much choice. I don’t know if it was—it probably was the combination of, you know, the way I was eating, ’cause it was just salads, and, you know, the stress of trying to lose the weight and trying to get my run to where it needed to be.

**Sarah:** “I think that was probably the most stressful thing for me was the fact that I was breastfeeding – which I wouldn’t change anything – um, and trying to take in the calories that I needed to do that. ‘Cause I couldn’t lose the weight.”

Lastly, some participants gave up breastfeeding altogether because they felt it was too stressful and difficult. For them, breastfeeding was one more thing among so many things, including preparing for the fitness assessment, which overwhelmed them. Therefore, they felt they had no choice but to stop. Mickey and Jessica, for example, shared how they had to give up trying to breastfeed their babies.

**Mickey:** I was just trying to sit there and figure out how I was going to [pump] at work. And it was like, well, how am I going to go work out? And, you know, I’m just trying to figure out all that. So I just pretty much gave up [breastfeeding]. It was just too much.

**Jessica:** “I was still trying to breastfeed. And I ended up – I was trying to pump and everything. But I don’t know – I don’t know if it was just stress or if it was just because I was pumping more than I was feeding her... And I was trying to pump at work...But my production pretty much stopped...I mean, it was – and it was just all over. There was nothing I could do anymore.”

Along with the physical changes that occur within the experience of perinatal transition, emotional and social changes are also present. Mood changes including the “postpartum blues” are common and thought to occur in up to 80% of postpartum women (St. Pierre, 2007). Also, mothers typically develop emotional bonds with their babies and at the very least must adjust to a
new member of their family. Moreover, this new addition to the family is utterly dependent and in need of tremendous amounts of nurturing.

The emotional and social aspects of this life transition were apparent in the stories of these participants. Some of the participants spoke outright of their emotional changes and how these changes related to fitness assessment preparation. Examples of this can be seen in Denise’s and Jessica’s stories.

**Denise:** “But then like maybe like three, four weeks, I – like that’s when like I was so emotional. And I’m like, “What is wrong with me? I have never been like this.” I wasn’t like that through my pregnancy. And, um, before then, I was never emotional. And then right after – like a few weeks in, I was like, “Oh, my God. I’m like an emotional wreck.”

**Jessica:** “And there would be some days where I was just – I mean, I wouldn’t call it depression. I was never – I was never suicidal or anything like that. Just sad. Like I just didn’t – I just didn’t want to do anything. I was still happy to see her and I still did everything – everything with her and for her...I just didn’t know what to do with myself...And I think those – those were the days where it was the hardest to kind of get up and try to motivate myself.

Other participants felt emotionally and physically drained as a result of this transition which made preparation even more difficult.

**Chevelle:** “I guess it’s fifty percent physical and fifty percent mental. You have to have the mindset, too...Mindset was I’m tired. Worn out. Um, I’m constantly going, it’s like you never really get that mommy rest period...And it just puts you in this tired, frustrated, annoyed mindset sometimes. You can’t help it.”

**Mickey:** “Just more stressors. More – trying to figure out like daycare, picking her up. And by the end of the day, you’re already exhausted from work, so then trying to work out on top of that and – it was a hard thing to get into”

The physical and emotional transitions that women go through after childbirth are profound life transitions. Yet, as if these transitions were not enough to manage, several of the participants concurrently experienced other transitions which are commonly part of the military lifestyle. For example, three of the participants moved to a different base and different job.
Others mentioned that their spouses were away on deployment or temporary duty during at least part of the postpartum period. These added transitions seemed to be overwhelming to the participants. Mickey, a first time mother who simultaneously went through several significant transitions summed it up this way:

**Mickey:** “But I don’t know. It was just – I was just new to all of it...Being a mom...The Air Force. All of that...And then on top of that, becoming single. So it was just kind of everything at once it seemed. “

**Summary of pattern 1**

The first pattern that emerged from the interpretive analysis was *Striving to Perform under Pressure through Profound Life Transitions of Childbirth.* This pattern, along with pattern 2 which will be discussed next, describes what it means to exist as an active duty postpartum woman who is preparing for the USAF fitness assessment. Through an interpretive analysis of the participants’ stories, the research team discovered that these women are striving to perform as both an Airman and a mother. In addition, they are striving to perform under the pressure of time constraints and fear of failure related to the fitness assessment. Finally, they are striving to perform under pressure through the profound life transition of childbirth. This transition is unique in that it encompasses simultaneous physical, emotional, and social transitions.

**Pattern 2: Seeking Understanding from Others**

As is evident in pattern 1, the experience of training for the USAF fitness assessment after having a child is a complex phenomenon. The participants clearly wanted to be, and in fact for the most part were, successful in performing their fitness assessments. However, the process they went through to be successful was tangled up with so many other facets of the experience that they were faced with a very difficult challenge. As they strove to perform under pressure through life transitions, they often felt like nobody understood what they were going through.
This left them in a state of *Seeking Understanding from Others*, and this is what emerged as a second pattern that describes what it means to prepare for the USAF fitness assessment after childbirth (see Figure 2). This pattern is distinct from but interrelated with the first pattern.

![Diagram of Seeking Understanding from Others](image)

**Figure 2. Illustration of Seeking Understanding from Others**

Included in this pattern of seeking understanding from others are the common ideas of seeking understanding in general, seeking/not seeking support and seeking guidance. The
participants often specifically stated that others did not understand what they were experiencing. In addition, they commonly mentioned experiencing a lack of support and guidance, both of which seemed to be tied to understanding. Not receiving support and guidance were indications that others did not understand what they were going through. Conversely, in cases where the participants mentioned receiving needed support, received support was an indication that others did understand.

**Common idea 1: Seeking understanding in general**

The participants seemed to suggest that if others just understood what they were going through, then perhaps their experience would not be so difficult and stressful. Perhaps if others understood then they could get some latitude in what they needed to do to prepare for their fitness tests without being thought of as a lesser person. However, the participants’ perceptions were that few people understood what they were going through including health care providers, supervisors, co-workers, and family members. Many examples of this were found across the transcripts; here are a few:

**Emily:** “And a lot of people don’t have children. They don’t understand, you know, what it’s like...trying to find the time.” ... “I think it would have been easier if work had been a little bit more understanding."

**Chevelle:** “So you’re a military body, and then you have to turn into a mom. And so it’s kinda hard to be both. They don’t – or your supervision may not understand both.”

**Wilma:** “Because nobody knows what you’re feeling. Nobody knows what you’re going through.” ... “Well, you know, obviously my husband won’t understand. He – you know, he just kind of felt that I – I hadn’t – I wasn’t pushing myself hard enough...and then, you know, my family didn’t understand.”

Conversely, in instances when they did receive the understanding that they were so desperately seeking, it seemed to make all the difference in the world to them and their ability to succeed. It gave them hope. Freddie was a first time mother and the only woman in her work
center. She reluctantly asked for additional time to prepare, thinking that her peers and supervisors would not understand her situation. Fortunately, she was surprised to discover that they were very understanding. For Freddie this made a big difference in her ability to successfully do well on her fitness assessment.

**Freddie:** “I have a really good support system at work. I work with a bunch of guys..., and, um, they were really understanding of all the things I had to go through.”

Later on in the interview Freddie explained that she had to ask for extra time to prepare for her fitness assessment or she was afraid she would fail. She was very worried about asking for this time because she thought she would be looked down upon. When asked what happened after she did request extra time she responded:

**Freddie:** “It wasn’t bad actually. Other people started asking for time, which it kind of helped out with our – with, I guess, a little bit of the morale ’cause it made it seem like supervision actually cared.

Part of seeking understanding involved seeking understanding from the USAF as an institution. Some of the participants felt that USAF policies caused their supervisors and leaders to be too rigid when it came to fitness preparation and testing. Even though the participants took responsibility for their own physical fitness, they felt that what they were expected to do was unreasonable in certain circumstances. Some of the participants even suggested that the policies and perceived lack of leeway in training for the fitness test after childbirth seemed unfair. One common element noted from the transcripts is that current USAF policy is such that women are expected to participate fully in training as soon as they returned from maternity leave. The standard maternity leave is 42 days after discharge from the hospital, so most women return to work between 6 and 7 weeks after delivery. This was particularly problematic for participants, such as Marie, who had a cesarean delivery or complications.
Marie: “The one thing that I probably don’t agree with is the six weeks of convalescent leave...Because, like I said, I wasn’t even fully healed until nine...So if I were going to change anything – if I were queen for one day – I would probably make the convalescent leave nine weeks...Or I think the civilian standard is twelve. That may be a little excessive for military. But nine weeks or maybe – six weeks was fine for a vaginal birth. But maybe a consideration, um, for Cesarean because of the major surgery.”

However, even participants without cesarean deliveries or significant complications were concerned about fully participating in physical training immediately upon return from maternity leave. Apparently in their work centers they can only be excused from full participation if they obtain a “profile” from their health care provider that is approved by their commander. The “profile” (or Duty Limiting Condition as it is officially called) is a formal document that outlines what an active duty member can and cannot do for physical training and other activities related to work performance (USAF, 2010a). Emily and Samantha, neither of whom were first-time mothers nor had cesarean deliveries or major complications, shared some thoughts on policy and expectations.

Emily: “And I understand it’s the military. You know, there’s – I’m not saying that they should change – like to have to change their policies and everything. But I just – I feel like there should be a little bit more leeway, I guess.”

Samantha: “but it felt like there was no leeway. That when we went out as a group, that this is what we were doing today, and you were expected to maintain that regardless of what your situation was. If you were on a profile, you were in a group over there. But coming back postpartum, you’re not on a profile for physical issues.”

However, at the same time they were usually reluctant to ask for more time to train. In fact they were quite stoic in their physical fitness training efforts. They typically sought understanding but did not outright ask for special consideration. They were concerned about the appearance of asking for special favors.

Chevelle: “So I just would – I wish there was more maybe patience with the postpartum PT test...maybe a little bit more guidance”
Freddie: “one of the things I did kind of struggle with, um, was having to ask for special treatment.” ... “I felt like if I showed, um – if I asked them for a favor or, you know, some help, I’d feel – I kind of felt like people would look at me and think, oh, they favor her, or she’s a girl so she gets this extra time.”

Elizabeth: So it’s like they, you know, made the test harder and made you have to test more frequently, but they didn’t compensate for that by doing mandatory PT, um, or, you know, protecting your PT time more.

Common idea 2: Seeking/not seeking support

The interpretation of transcripts revealed that part of seeking understanding was feeling supported by others. Seeking/not seeking support was one of the common ideas that emerged during the pilot study, continued to emerge throughout the full study, and ultimately pointed to seeking understanding. Some participants remarked about how they lived far from extended family, another aspect of military life, which means that they may not have had social support systems that they had been able to rely on in the past. An example of this can be seen in one of the pilot study participants’ story.

Layla: “I mean, I had the support from my husband, but he couldn’t like physically support me. He couldn’t come work out with me all the time or anything like that. Um, my coworkers didn’t really seem too supportive about it. I mean, they weren’t saying anything negative to me or anything like that, but they didn’t try to work out with me or to kind of cheer me on if I was working out on my own or anything...So there wasn’t any kind of moral support that way...And then being in the military, I – I didn’t have my family here for the delivery or anything like that. So that was, I guess, kind of stressful, too, ’cause I couldn’t really ask like my mom questions about the baby or anything. I had to wait until I had time to call her and ask questions.”

Another participant, Penelope, echoes some of the sentiment expressed by Layla in regards to wishing for more support in physical training. She talked about how she had “emotional” support from co-workers but no support with physical conditioning because they all trained together after work when Penelope had to pick up her baby from daycare.
Penelope: “A little more time. I think that if we – a little bit more time perhaps during the duty day to do physical – or, you know, physical training would be great. I know that might not always be feasible, um, depending on where you work. But, um, it definitely would have helped to have the – the – the group there to help push you. I mean, there’s – it’s one thing to work out on your own and whatnot, but I think that had I been able to be with, you know, my coworkers and whatnot, I could’ve probably pushed myself a little bit harder.”

There were other participants who were just seeking support in general.

Elizabeth: “So it’s not necessarily that people aren’t saying that they’re supportive or I don’t feel supported, but no one takes, I guess, a real big effort to show support.”

Mickey: “I guess if I found the right support and the right way to go about it, I could’ve probably done it. But being new, I didn’t know where to go”

Although support was a common idea seen across transcripts, not all participants shared whether or not they actually sought out support even though they identified that they would have liked more support. However, the participants who did seek and receive support indicated that this was a key to their successful preparation for their fitness tests. Marie explains how support from her friends, spouse and work helped her.

Marie: “Good friends to help me. Um, ‘cause without like – and my husband when he could help – um, to watch the kids to allow me that time. Um, and then finally having full manning at work allowed everybody to get back on a normal schedule to be able to go to PT...It was a huge difference.”

Common idea 3: Seeking guidance

In seeking understanding from others, participants were not only seeking or hoping for support, but they were also searching for guidance. Most of the participants perceived that they did not get the guidance they needed to prepare for the fitness assessment after childbirth. Penelope described this in her story.

Penelope: “Um, I think, ah, from a like a – a medical standpoint, I probably would’ve
liked a little bit more direction, um, on what I – even though I’m familiar with the field, I guess you could say, I still felt like I didn’t get a lot of direction on what I could and couldn’t do post C-section.”

Also, when they looked for guidance they had trouble finding it. Several participants expected to be able to find guidance through base services but ultimately did not and searched elsewhere. This was certainly the case for Freddie.

**Freddie:** “Which, you know, would have been nice if I could find that information on base, which I – I didn’t. There wasn’t – there wasn’t really anybody who seemed available to talk to. I had to find everything online.”

Similarly, Chevelle also expressed that she did not get the guidance she felt she needed to care for herself after childbirth.

**Chevelle:** “You don’t really get too – too much guidance on how to take care of yourself after. Like you say, you don’t really – it’s like you’re left out in the wind unless you’ve had someone who has experienced it before and can help you.”

While for the most part participants stated they did not receive enough guidance, there was one notable exception. Participants who were referred to physical therapy found the guidance they were looking for to prepare physically for their fitness assessments. Five of the participants in the main study shared that they were referred to physical therapy. All five said that the information they received from physical therapy was particularly helpful.

**Wilma:** “And then I found out afterwards – for the C-section – I guess, I should have known this, but, you know, since they tear the abs apart during the C-section, that it’s supposed to heal better. But I actually had to go to physical therapy afterwards because my knees were hurting so bad... And my physical therapist was like – well, basically, she was like – her professional opinion was that I had to re-teach my abs how to do certain things. That it was basically because my core wasn’t engaging the way that it should, it was putting more pressure on my knees.”
Although Wilma related her difficulties to her cesarean delivery, three of the five women who received care from physical therapy had vaginal deliveries. Jessica, who had a vaginal delivery, was also referred to physical therapy for knee pain.

Jessica: “But after I had the baby and after I started trying to – started trying to run again...the pain was just so continuous. My knees kind of giving out from underneath me... And then I can’t – I don’t know – I mean, other than the fact that I had the baby, you know, my hips were just hurting all the time from just walking...So it just made – it just made doing all the workouts so much more difficult...I ended up talking to a male physical therapist, and he told me that I needed to – um, I needed to work the muscles that were basically like opposite of whatever was hurting. So, you know – ’cause I was overcompensating for the muscles that were hurting.”

Summary of pattern 2

The second pattern that emerged from the interpretive analysis was Seeking Understanding from Others. The participants in this study sought understanding from close family members, supervisors, peers, health care clinicians, and the USAF as an institution. This second pattern predominantly consisted of seeking understanding in general but also encompassed common ideas of seeking/not seeking support and seeking guidance. Although the participants were seeking understanding, they perceived that most people did not understand what they were going through. In addition, lack of support and lack of guidance pointed to a lack of understanding from others.

Many participants stated outright that people around them, including spouses and co-workers did not understand. They also sought understanding from the USAF as an institution. Many participants commented on policies that seemed to be unreasonable or unfair to their situations but at the same time they were reluctant to ask for changes and risk being seen as asking for special treatment.
In addition to overall understanding, support (or lack of support) from others seemed to be an indication of understanding (or lack of understanding). Participants felt supported to varying degrees. Most of the participants seemed to be hoping for support and some of them actively sought out support. Those who did seek out and receive needed support indicated that this was one of the keys to their success.

Another common idea within the pattern of Seeking Understanding from Others was seeking guidance. Many of the participants felt that they did not receive the guidance from others that they needed to succeed in their efforts to prepare for their fitness assessment. Several of the participants mentioned that they sought guidance from various base services but still could not find what they were looking for and were left to figure things out for themselves. This led to a feeling that their situation was not understood by those they thought should be guiding them.

One interesting finding that emerged from some of the stories was that participants who went to physical therapy indicated that this was one place where they felt they received understanding through needed guidance. All of the participants who stated they were seen by a physical therapist felt that this was helpful and that they received the support, guidance, and understanding they were searching for - at least for the physical difficulties of training for the fitness assessment after childbirth.

Summary of Results

The two overarching patterns that emerged from the interpretive analysis of the transcripts were: Striving to Perform under Pressure through Profound Life Transitions of Childbirth and Seeking Understanding from Others. These patterns describe what it means to exist as an Airman who prepares for the fitness assessment after childbirth. They emerged as a common meaning despite the differences in the contexts of the participants’ lives. These
patterns encompass several common ideas that were derived from the interpretations of the transcripts.

Common ideas that were part of the pattern *Striving to Perform under Pressure through Profound Life Transitions of Childbirth* included: striving to perform as an Airman and as a mother; the pressure of time constraints and fear of failure; and physical, emotional and social changes associated with the transition that occurs after childbirth. Generally speaking, the participants in this study experienced feelings of stress, frustration, and being overwhelmed as they strove to perform under pressure through the transition after childbirth. In addition, some of the women engaged in unhealthy behaviors in an effort to prepare for and be successful in their fitness assessment.

The second overarching pattern was *Seeking Understanding from Others*. The common ideas described in the participants’ stories that pointed to this pattern included: seeking understanding in general, searching for support, and seeking guidance. Participants sought understanding and support from family, peers, work centers and the USAF as an institution. They sought guidance from peers, health care providers, and base services. For the most part, the women in this study did not feel they were given the guidance they needed to prepare for their fitness assessments in a safe and healthy way. One common exception to this was guidance received from physical therapy.

The overarching patterns of *Striving to Perform under Pressure through Profound Life Transitions of Childbirth* and *Seeking Understanding from Others* signify that these participants experienced an extremely challenging and complex phenomenon. In light of the findings of this study, it is not surprising that most of the participants described their experience in training for the fitness assessment after childbirth as a stressful, difficult struggle. Under the circumstances,
the determination to persevere despite the extent of their difficulties, and the generally successful accomplishment in passing the fitness assessment as described by the participants is remarkable.

Penelope: “And having my – my child up until this point a great experience. Just the points – some points were very difficult. And, I guess, like I said, the physical fitness test, um, definitely, definitely adds to the stress because of how significant it is. And, um, it is what it is to be in the military, I guess”

Chevelle: “the overall challenge of the postpartum is just, you know, being that person…that you used to be that you are no longer once you’ve had your child.”
CHAPTER FIVE

DISCUSSION AND IMPLICATIONS

Meaning of Results

The meaning of the lived experience of preparing for the USAF fitness assessment after childbirth can be described as *Striving to Perform under Pressure through Profound Life Transitions of Childbirth* and *Seeking Understanding from Others*. These results provide an understanding of this experience which reveals that postpartum active duty women face a daunting task in training for the USAF fitness test. Although one woman from the pilot study took on the challenge and used it to improve her health and fitness to a level she had never before attained, most of the participants were faced with a challenge that was much more difficult than they expected. This occurred in some form or another even with mothers who had previously experienced preparing for the fitness assessment after childbirth. As for the women who were first-time mothers, they were confronted with incorporating training efforts into their overall experience of transitioning to motherhood.

For first-time mothers, the transition to motherhood during the postpartum period is one of the most common and profound life changes that women will go through. Nelson’s (2003) metasynthesis of nine studies captured transition to motherhood. She found that the transition to motherhood involved a process of engagement on the part of the mothers that led to growth and transformation. Some common themes for the postpartum aspects of this transition were: experiencing a maternal-infant attachment; developing a sense of responsibility that at times caused new mothers to feel very overwhelmed; disruption of daily life and feeling overwhelmed and unprepared; seeking out role models as a means of guidance in their mothering role; adapting to changed relationships with partner, family and friends; conflict between time at work
and time with child; and shift in priorities from career focus to child focus. Positive outcomes of this transition included increased patience, a new understanding of love, and empathy towards other parents. Negatives were associated with losses including loss of sense of self, loss of confidence, loss of self-esteem, and negative perception of themselves as mothers. This metasynthesis demonstrated that new mothers felt overwhelmed and largely unprepared to deal with maternal transition despite preparatory efforts.

Many of the common themes described above are consistent with the common ideas that emerged during the analysis of this present study. For example, feeling overwhelmed and unprepared, and seeking guidance and role models were common in the experiences of women who were preparing for their fitness assessments after childbirth. This suggests that preparation for the fitness assessment may compound the feelings of being overwhelmed and unprepared that women are already going through as a result of transitioning to motherhood.

Regardless of whether or not a woman is transitioning to motherhood for the first time, the profound life transition that occurs with childbirth is unique and encompasses physical, emotional and social changes. Difficulties in preparing for the fitness assessment related to perinatal physical changes was one of the most common ideas seen in almost every transcript. These difficulties included pain during conditioning, noted loss of muscle strength (particularly core strength), and persistent weight retention. Furthermore, these difficulties were described by participants regardless of type of delivery or amount of previous conditioning; although women who had cesarean deliveries described their loss of core strength as particularly prominent.

Postpartum pain during conditioning and loss of muscle strength have also been described in the literature. For example, in one study researchers found that 33% of 272 postpartum women had persistent lumbopelvic pain until at least 3 months postpartum (Gutke,
Lundberg, Ostgaard, & Oberg, 2011). Furthermore, 40% of those women with persistent pain reported moderate to severe disability because of the pain. In another study, the researchers found that structural adaptations of abdominal muscles occurring during pregnancy did not resolve completely by 8 weeks postpartum (Gileard & Brown, 1996). In addition, the ability of the abdominal muscles to stabilize the pelvis against resistance remained low at 8 weeks postpartum. This occurred despite continued aerobic training during pregnancy. The authors concluded that postpartum women were at increased risk of low back injury and should be closely monitored when conducting abdominal exercises during the initial postpartum period.

Postpartum weight retention and difficulty losing weight are also documented in the literature. Specifically, in the U.S. excessive weight gain and postpartum weight retention is common (Chu, Gallagher, Bish, & D’Angelo, 2009; Walker, Sterling, & Timmerman, 2005). Therefore, it is not surprising that many of the participants discussed their struggles with weight as part of their experience in preparing for the fitness assessment postpartum. What is surprising is how unprepared the participants felt in dealing with excess weight gain and postpartum weight retention, and the extreme measures some of them went to in order to manage their weight.

Another unique facet to physical changes in the postpartum period is that of changes associated with breastfeeding. It is well known that breastfeeding is generally regarded as a health benefit to infants and mothers. However, several participants discussed the difficulty in persisting with breastfeeding while trying to accomplish their role as Airmen including preparing for the fitness assessment. Several participants stated that they noticed a decrease in milk supply while attempting to make adjustments in diet and exercise during their fitness assessment preparation. One participant noted the challenge of planning exercise around infant feeding schedules. Several shared that breastfeeding was so stressful that they gave it up altogether.
These statements indicate that active duty postpartum women may not be getting adequate lactation support.

As mentioned already, in addition to physical changes, perinatal transition includes emotional and social changes that women must try to adjust to. One example is adjusting to caring for a newborn. Several participants discussed in their stories this aspect of their role as a mother, whether it was for the first time or with an additional child in their families. Caring for a newborn who is an entirely dependent human being can be an all-consuming task that takes a considerable amount of adjustment. In a review of the literature on transitioning to parenthood, Cowan and Cowan (1995) found that both men and women had increased levels of distress after the birth of a first child and that marital satisfaction decreased for many, perhaps even most, couples. They also found that new parents experienced significant shifts in relationships with extended family and friends. These findings are consistent with the distress and changed relationships evident in the stories of the participants in this current study.

Emotional changes were also recounted by several of the participants of this study. The postpartum period is also known to be a time of vulnerability to mental illness which can have implications to the health and wellbeing of the entire family. Prior research has indicated several factors that are associated with an increased risk of postpartum depression. These include: perceived disruption to daily life, perceived increase in transition during the postpartum period, and lack of social support (Beck, 2001; Horowitz, Damato, Duffy, & Solon, 2005). Furthermore, maternal postpartum depression has been associated with poorer cognitive function of the child (Grace, Evindar, & Stewart, 2003). Therefore, it is concerning that most of the women in this study found their experience to be extremely stressful, and it is unknown how this may impact their own health and that of their infants.
Given all of the above evidence, it is no wonder that *Seeking Understanding from Others* also emerged as a pattern that describes the experience of postpartum women as they train for their fitness tests. Many of the participants needed understanding, support, and guidance in order to feel and be successful in preparing for their fitness assessment. The analysis showed that they were reluctant to ask for extra time to prepare or otherwise seek individual exception to policy, in part because they did not want to appear to be asking for special treatment. Yet they were hoping that their co-workers and supervisors would show understanding by granting some leeway in the policy without being asked. Several of the participants indicated that USAF policies regarding fitness training were too rigid or unfair to at least some postpartum women, particularly those with cesarean deliveries or complications. The participants were not only hoping for understanding through support from their work centers but also from their family and friends. Some of the women felt that even their close family members did not understand what they were going through and, therefore, were perhaps not as supportive as the participants would have liked.

Lastly, the participants were seeking understanding through seeking guidance from others. Many of the participants indicated that they felt like they did not have the information or guidance they needed to prepare safely for their fitness assessments. They were frustrated at the perceived lack of guidance available from on-base services. They also indicated that they did not get information that they needed from their health care clinicians. One exception to this was if they did receive treatment from a physical therapist. The participants who were under the care of a physical therapist stated that this was particularly helpful and they did receive guidance and understanding – at least in regards to physical preparation for their fitness tests.
It is somewhat surprising to discover that the participants felt they received so little guidance. As active duty airmen, the participants all had fully insured health care and access to health care providers. In addition, both bases that were sites for this study had Health and Wellness Centers with resources on fitness and nutrition that are free to active duty personnel. Both bases also had dieticians, physical trainers, and New Parent Support Program nurses who could be consulted as needed. It is unknown why the participants of this study did not obtain needed guidance with the exception of physical therapy.

**Implications for Provision of Care**

This study sheds light on the experience women go through in preparing for a fitness test during a time of profound transition. The results can help health care clinicians understand this experience and develop interventions to assist women who are going through similar experiences. The results from this study along with what is known from existing literature suggest that active duty women may be at increased risk for emotional and physical health problems at the time they are preparing for their first fitness assessment after childbirth. All of the women in this study indicated a desire to perform well on their fitness assessment and went to great lengths to do so, even preparing in ways that they thought could be harmful to their overall health.

These results suggest that women may benefit from more anticipatory guidance not only for what to expect after delivery but also how to maintain fitness and prevent excess weight gain during pregnancy. Anticipatory guidance on weight gain should be given in early pregnancy or even during preconception counseling. Many of the women in this study were taken by surprise at the effects of excessive weight gain during pregnancy on their ability to prepare for the fitness assessment postpartum. They were also often dismayed at how difficult it was to lose weight.
within the initial 6 months postpartum. The exception to this was one participant from the pilot study who took it upon herself to lose extra weight and gain better eating habits prior to becoming pregnant. She was the only participant who described her overall experience in preparing for the fitness assessment as “easy”.

Secondly, the results from this study also imply that some postpartum women may benefit from more information about how to exercise and eat after different types of deliveries and during breastfeeding. The participants typically perceived that they did not get the direction or guidance from reliable sources that they needed in order to prepare for their fitness assessments safely. Moreover, many felt overwhelmed when they discovered how much conditioning they had lost during pregnancy. Anticipatory guidance regarding loss of conditioning and expectations for regaining conditioning might be helpful for some women. In addition, some of the participants who wanted to breastfeed had a lot of difficulty which suggests they could have used better lactation support. Close follow-up of active duty women after delivery to specifically address the issues related to regaining physical fitness, including physical conditioning, nutrition, and lactation is mandated by the evidence of this study.

Lastly, active duty USAF women should be given information about how and when to access military healthcare systems for complications that may be exacerbated by strenuous exercise. Likewise, if not already being done, liberal referrals to physical therapy should be considered for active duty postpartum women exhibiting any pain or physical problems while preparing for their fitness assessments. Similarly, referrals to existing supporting base services such as Nutritional Medicine, the Health and Wellness Center, and the New Parent Support Program should be strongly considered.
Implications for Policy

The participants in this study clearly indicated that they desired understanding from supervisors and co-workers without being perceived as asking for special favors or treatment. The profound emotional, physical, and social changes that active duty women undergo during pregnancy and the postpartum period need to be acknowledged and accounted for when helping them to regain full mission readiness. These changes, although commonplace among female military members, are not quite the same as any other condition or situation a military member may face. The number of childbearing women in the USAF is estimated to be in the thousands and, as with all airmen, a significant amount of time and money has been invested in their training and preparation to carry out the USAF mission. Therefore, it would be prudent to have good policies in place that support these women in their efforts to regain and maintain mission readiness after childbirth.

First of all, it is clear from existing literature and these study results that it is unreasonable to expect that women can fully participate in unit physical training as soon as they return from maternity leave. Pushing women to do so increases the risk of injury and thus additional time away from their duty sections. Therefore, either unit supervisors should be empowered to allow for leeway according to individual circumstances, or women should routinely be given an individualized “profile” during the postpartum period outlining incremental participation in physical training.

Furthermore, the stress that many of these women undergo in preparing for their fitness assessment could be mitigated by easing strict deadlines and allowing for more recovery time in individuals with complications. Compounding the stress of the postpartum transition with the added stress to prepare for a fitness assessment in too short a time runs the risk of detrimental
health effects to the individual and her child. Although six months post childbirth may be
enough time for many active duty women to prepare, it is not necessarily enough time for all
women depending on their circumstances. While there is currently an avenue for women to seek
“profiles” to extend their time to train, the participants in this study were reluctant to do so citing
that they thought they would be perceived as asking for special favors. Therefore, women
should be encouraged by supervisors and commanders to seek “profiles” and advice from
medical personnel as needed.

Implications for Future Research

The focus of this study was to develop an understanding of the phenomenon of preparing
for the USAF fitness assessment after childbirth. Of the 14 participants in the full study and the
3 in the pilot study, all but one struggled in preparing for their fitness assessments. The
participants of this study have described certain aspects of their experience that are worth
exploring with further research. For example, more research on the impact of certain
interventions in facilitating the ability of women to prepare for the assessment in a safe way may
be warranted. This could include anticipatory guidance strategies provided for women during
pregnancy and postpartum involving more information about what to expect with physical
training and weight management. Research could also include developing postpartum “profiles”
that comply with current readiness standards and outline incremental increases in physical
training for the first few months postpartum.

Research regarding current strategies used by clinicians to address the healthcare needs of
childbearing active duty women as they prepare for their fitness assessment is also needed.
Along the same lines, research on current practices for physical training requirements for
childbearing airman in the work centers is needed. Qualitative research that involves the
perspectives of USAF clinicians and leaders in regards to physical training in childbearing active duty populations should be considered. Research in these areas could help to improve current practices to facilitate optimal health in this population.

In addition, more research on the experience of active duty women preparing for their fitness assessments at other AFBs is needed. It is possible that women in other geographic locations or commands may have different experiences from the participants in this study. This research would help clinicians gain a better understanding and insight into whether the experiences of the participants in this study are common to those of other USAF women.

Lastly, it is apparent from this study that many women do struggle with preparing for the fitness assessment after childbirth. The fact that they are able to prepare to the point of not only passing but often doing well by 6 months postpartum despite all of their physical and emotional challenges is quite extraordinary. This may indicate that this population is exceptionally resilient and more research regarding resiliency in this area may be warranted.

Conclusion

Existing research suggests that women are more vulnerable to mental and physical illness during the postpartum time frame. In addition, transitioning to new parenthood not only has been found to be associated with significant social changes but also a profound transformational process. It is therefore important to understand how preparing for the USAF fitness assessment after childbirth may affect the health and wellbeing of active duty women. A greater understanding of this phenomenon was achieved through interpreting the lived experience of active duty women as they prepared for their fitness assessment taken at 6 months postpartum.

Through a Heideggerian approach, the research team identified two patterns that describe what it means to exist as an active duty woman who is preparing for the USAF fitness
assessment taken 6 months after childbirth. The patterns that emerged were *Striving to Perform under Pressure through Profound Life Transitions of Childbirth* and *Seeking Understanding from Others*. These patterns included common ideas of: striving to perform as mother and Airman; pressures of time constraints and fear of failure; physical, emotional, and social changes associated with the transition of childbirth; seeking understanding in general; seeking/not seeking support from others; and seeking guidance. In addition, common ideas of stress, frustration, and unhealthy behaviors were intertwined throughout these identified patterns.

Results of this study can be used to inform health care practice, USAF policy, and future research. Ultimately the goal of this research is to expand the extant knowledge so that health care clinicians can better promote the health and wellbeing of active duty childbearing women. Ideally this research will help health care providers improve practice and better advise USAF leaders on policy as it relates to this population.
References


bearing performance and the Army Physical Fitness Test. *Military Medicine, 169*(12), 994-999.


Weiglein, L., Herrick, J., Kirk, S., & Kirk, E. P. (2011). The 1-mile walk test is a valid predictor of VO(2max) and is a reliable alternative fitness test to the 1.5-mile run in U.S. Air Force males. *Military Medicine, 176*(6), 669-673.


APPENDIX A

Recruitment Flyer

Are you an Active Duty Air Force woman who has had a baby in the past 18 months?

Have you taken the 6-month postpartum fitness test?

Would you like to contribute to nursing research?

If the answers to the above questions are YES, then you could be eligible to participate in a research study.

This study is being conducted by Lt Col Nicole Armitage who is a Women’s Health Nurse Practitioner and PhD student at Washington State University. She is interested in the experience of postpartum active duty women as they train for their fitness assessment.

Participants in this study will be asked to be interviewed which will take approximately an hour of time. Information from the interview will be kept confidential. If you are interested in participating or have any questions, please contact Nicole Armitage at 509-979-8787 or narmitage@wsu.edu.
APPENDIX B

Consent Form

WASHINGTON STATE UNIVERSITY
College of Nursing

Research Study Consent Form

Study Title: Experience of Postpartum Active Duty Women in Training for the Air Force Fitness Test

Researchers:

Principal Investigator: Dr. Billie Severtsen, Associate Professor, College of Nursing, Washington State University. Phone: 509-324-7286.

Co-investigator: Lt Col Nicole Armitage, PhD Student, College of Nursing, Washington State University. Phone: 509-979-8787.

Co-investigator: Dr. Denise Smart, Assistant Professor, College of Nursing, Washington State University. Phone: 509-324-7255.

Co-investigator: Dr. Roxanne Vandermause, Associate Professor, College of Nursing, Washington State University. Phone: 509-324-7281.

You are being asked to take part in a research study carried out by Billie Severtsen and Nicole Armitage. This form explains the research study and your part in it if you decide to join the study. Please read the form carefully, taking as much time as you need. Ask the researcher to explain anything you don’t understand. You can decide not to join the study. If you join the study, you can change your mind later or quit at any time. There will be no penalty or loss of services or benefits if you decide to not take part in the study or quit later. This study has been approved for human subject participation by the Washington State University Institutional Review Board and the U.S. Air Force Institutional Review Board.

What is this study about?

This research study is being done to help health care providers understand what it is like for postpartum women to prepare for the Air Force fitness test. You are being asked to take part because you are on active duty, have had a baby, and have recently taken the Air Force fitness test. Taking part in the study will take about an hour of your time.

You cannot take part in this study if you are under 18, if you are not on active duty, have not taken the Air Force fitness test at around 6 months after having a baby or are unwilling to have your interview voice recorded.

What will I be asked to do if I am in this study?

If you take part in the study, you will be asked to tell your story about preparing for the Air Force fitness test after having a baby. This interview will be like a conversation with only a few questions asked by the researcher to help the researcher understand your story. At the end of the interview the researcher will ask you eight demographic questions. The researcher will be using a voice recorder to record the entire interview for later analysis. Prior to the interview you will be asked to choose a pseudonym or “fake” name. The researcher will use this name to
refer to you in the interview and in any excerpt from the interview used in the research study.

Examples of questions the researcher might ask are as follows:

- For the purposes of this interview, what name would you like to use? This will be your name for the interview and no one will know that this name belongs to you except for yourself and the researchers.
- Is there a specific memory you have about preparing for the fitness tests that sticks out in your mind?
- Is there anything in particular you would like to share about your experience in preparing for the fitness test?

Demographic questions:

- What is your current age?
- How many children have you given birth to?
- With this last pregnancy, did you have a C-section or vaginal delivery?
- What type of infant feeding did you do during the initial 6-months postpartum – breastfeeding, bottle-feeding, or both?
- Did you pass your fitness test prior to getting pregnant and what was your score?
- Did you pass your fitness test at 6 months postpartum and what was your score?
- Did you engage in any fitness training during pregnancy?
- When did you start fitness training after childbirth?

You may refuse to answer any questions and, if at any time during the interview you feel uncomfortable or would like to stop the interview, you may tell the researcher that you wish to discontinue the interview. In addition, you can withdraw from the study at any time before the interview is completed.

Are there any benefits to me if I am in this study?

The potential benefits to you for taking part in this study are:

You may feel better by having an opportunity to share your story. Also, you may help others in the future to understand their own experiences better.

Are there any risks to me if I am in this study?

The potential risks from taking part in this study are:

It is possible that you could feel a little uncomfortable in sharing some parts of your story. If you disclose that you are having any emotional or physical problems during the course of the interview then the researcher will give you information about how to seek treatment if needed. In addition, there are some things that the researcher would be obligated by law to report if they are made known to her. For example, if you disclose that you are seriously considering harming yourself or others then the researcher must report this to Mental Health. If you disclose that you
have committed acts of abuse to your child or that you have been the victim of abuse from another household member, then the researcher must report that to Family Advocacy. While reporting incidences to these agencies, the researcher will also refer you to these agencies for treatment.

**Will my information be kept private?**

The data for this study will be kept confidential to the extent allowed by federal and state law. No published results will identify you and your name will not be associated with the findings. Under certain circumstances, information that identifies you may be released for internal and external reviews of this project. All interviews will be kept private and will not be discussed with anyone outside of the research study. Voice recordings and transcripts will be kept in locked cabinets or password protected computer files that only the research team has access to. Audiotapes will not be labeled with your name or personally identifiable information with the exception of the “fake” name that you choose. The research team includes: Billie Severtsen, Nicole Armitage, Denise Smart, Roxanne Vandermause, Washington State University College of Nursing faculty and graduate students involved with qualitative research studies, and the Washington State University Institutional Review Board.

Data from this study will be kept for 3 years and then will be destroyed. Results from this study may be published or presented at professional meetings but the identities of all research participants will remain anonymous.

**Are there any costs or payments for being in this study?**

There will be no costs to you for taking part in this study.

You will not receive money or any other form of compensation for taking part in this study.

**Who can I talk to if I have questions?**

If you have questions about this study or the information in this form, please contact the researcher Nicole Armitage by phone: 509-979-8787 or by email: narmitage@wsu.edu. If you have questions about your rights as a research participant, or would like to report a concern or complaint about this study, please contact the Washington State University Institutional Review Board at (509) 335-3668, or e-mail irb@wsu.edu, or regular mail at: Albrook 205, PO Box 643005, Pullman, WA 99164-3005.

**What are my rights as a research study volunteer?**

Your participation in this research study is completely voluntary. You may choose not to be a part of this study. There will be no penalty to you if you choose not to take part. You may choose not to answer specific questions or to stop participating at any time.
What does my signature on this consent form mean?

Your signature on this form means that:

- You understand the information given to you in this form
- You have been able to ask the researcher questions and state any concerns
- The researcher has responded to your questions and concerns
- You believe you understand the research study and the potential benefits and risks that are involved.

Statement of Consent

_____ (initials) I understand that my interview will be audio recorded.

I give my voluntary consent to take part in this study. I will be given a copy of this consent document for my records.

__________________________________  ________________________
Signature of Participant               Date

__________________________________
Printed Name of Participant

Statement of Person Obtaining Informed Consent

I have carefully explained to the person taking part in the study what he or she can expect.
I certify that when this person signs this form, to the best of my knowledge, he or she understands the purpose, procedures, potential benefits, and potential risks of participation.

I also certify that he or she:

- Speaks the language used to explain this research
- Reads well enough to understand this form or, if not, this person is able to hear and understand when the form is read to him or her
- Does not have any problems that could make it hard to understand what it means to take part in this research.

__________________________________  ____________________
Signature of Person Obtaining Consent  Date

__________________________________  ____________________
Printed Name of Person Obtaining Consent  Role in the Research Study
APPENDIX C

Interview Questions

Attachment – Interview Questions 21 June 2012

WSU Non-Exempt IRB Application PI: Smart

Experience of Postpartum Active Duty Women in Training for the Air Force Fitness Test

This study will be conducted using phenomenology as informed by Heidegger. In Heideggerian phenomenology, the purpose of the interview is to find the meaning of a lived experience through the narrative description by the participant (Dinkins 2005). A list of specific predetermined questions is not considered to be the best approach to eliciting the narrative. Instead it is recommended that the researcher begins with a general opening question to facilitate the telling of the story and then follow-up with clarifying questions as needed to elicit a full description of the experience (Dinkins 2005). Therefore, the initial interview question that will be presented to the participants is:

“I am interested in the experience of women who have had to prepare for the Air Force fitness test after having a baby. Could you tell me about your experience? Is there a specific experience or memory that you can think of about having to prepare for the fitness test after having had a baby?”

Examples of additional clarifying questions that could be asked are:

“Is there something about the experience of preparing for the fitness test that stands out in your mind that you would like to share?”

“You mentioned __________, could you tell me more about this particular aspect of your experience?”

“Are there any other aspects about this experience that you would like to share?”

Reference:

APPENDIX D

Demographic Questions

Demographic Questions will be asked at the end of the interview.

1. What is your current age?
2. How many children have you given birth to?
3. With this last pregnancy, did you have a C-section or vaginal delivery?
4. What type of infant feeding did you do during the initial 6-months postpartum – breastfeeding, bottle-feeding, or both?
5. Did you pass your fitness test prior to getting pregnant and what was your score?
6. Did you pass your fitness test at 6 months postpartum and what was your score?
7. Did you engage in any fitness training during pregnancy?
8. When did you start fitness training after childbirth?
APPENDIX E

Introductory Script

1. **Explanation of Study:** I am an active duty Air Force nurse practitioner currently in school to obtain my PhD. This study is being conducted for my doctoral dissertation. I am interested in the experience of active duty Air Force women as they train for their fitness assessments in the first 6 months after having a baby. I am not being directed by the Air Force to conduct this study nor will I be reporting any information except as required by law. The results of this study will be reported through written manuscripts but no information that identifies you will be disclosed. You may choose not to participate at any time until the interview is completed. Have you had a chance to review the consent form? Do you have any particular questions at this time?

2. **Reminder of Disclosures:** Confidentiality will be maintained of what you say during the interview and any information that is publicly visible will only be identified by the pseudonym that you choose. However, if during the interview you disclose anything that indicates you are being harmed, considering harming yourself, or are harming others, I will be obligated to report this to Family Advocacy and/or Mental Health. If you disclose that you are having a problem that requires medical assistance, I will refer you to the appropriate clinic.

3. **Pseudonym:** Please choose a pseudonym or “fake name” that will be used to identify all data with the exception of the consent form.

4. **Reminder of Audio Recording:** Just a reminder that the interview will be audio recorded. Do you consent to audio recording?

5. **Explanation of Interview Style:** The purpose of this interview is to allow you to tell your story of your experience. I will be asking very general, broad questions rather than a list of specific questions with the exception of some demographic questions I will ask after the interview. There may be times of silences in order for both of us to reflect on what we want to say.

6. **Consent Form Signatures:** Do you have any additional questions before you sign the consent form? Please sign the consent form if you are ready to do so.