

EFFECTS OF PHYSICAL ACTIVITY AND SOCIALIZATION
ON MOOD OF WIVES OF DEPLOYED
ARMY RESERVE SOLDIERS

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EFFECTS OF PHYSICAL ACTIVITY AND SOCIALIZATION
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ARMY RESERVE SOLDIERS

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CHAPTER I

INTRODUCTION

Introduction

There is a bumper sticker frequently seen around military bases that reads says, “Army wife: toughest job in the Army.” This is a declaration that the military spouse shoulders the majority of the responsibility at home because the military member is repeatedly absent for long periods of time. These responsibilities include managing finances, taking care of the house and children, managing medical appointments, shuttling children to and from school and sporting events, and handling emergencies. Although there are male spouses, 84.8% of Army Reserve spouses are female (ICF International, 2009, p. 121), which explains why nearly all formal and informal military programs focus on them. The United States has been engaged in persistent military conflict ongoing for the past ten years, resulting in multiple long-term deployments that average six to eighteen months at a time, which causes even greater stress on the military spouse.

Bushatz (2011) wrote a non-research article in Runner’s World magazine that portrayed almost two-dozen wives and widows of Army soldiers from the same unit who got together to run every Saturday. These wives may have had a goal that they were consistently working toward, such as a marathon, but for the most part, the activity provided a physical and emotional outlet for their frustrations and/or fears. It is also

something they did with others experiencing similar hardships and emotional pain. The women in the article discussed how bonding with other women in the same situation helped them cope with the difficulties and stresses in their lives.

Purpose of the Study

The purpose of this study was to determine if physical activity, social activity, or a combination of physical activity in a social context improved the mood of the participants.

Significance of the Study

The study of emotional and physical stresses due to extended separation is timely because the United States is in the midst of a long-term global conflict. The military spouse remains the lynchpin of the family support network, as well as the one who shoulders the majority of the worry and responsibility. The military family is finally receiving appropriate recognition, as evidenced by Michelle Obama and Dr. Jill Biden's "Joining Forces" campaign to support the military spouse. In this initiative, Mrs. Obama and Dr. Biden recognize that "military families deserve our respect and support at every stage of their lives" (Hall, 2011).

In general, there are very few studies that have focused on reducing stress in women, and even fewer that have compared different stress reducers to one another. Berger, a prolific researcher in the area of the effect of exercise on mood, indicated that there is still much study required in reference to the exercise-mood relationship. She recommended exploration of certain populations, the environmental influences of mood changes, and individual factors affecting mood (Berger & Motl, 2000). This particular study was designed to fill part of that gap.

The participants of this study were a unique group because of their distinctive stressors: their husbands had recently deployed to a combat zone and the husbands would be deployed for the remainder of the study. Additionally, the participants were wives of Army Reserve Soldiers who were generally unaccustomed to the repetitive stress of the deployment experience. Even if their husbands had been deployed several times, Army Reserve wives often have the added stress of isolation because their husbands are deployed from a civilian environment into an active combat operational area, and they do not have the same support structure that their Active Duty counterparts have: they do not have the same opportunities for networking, they do not have the shared experiences within their larger community, and they do not have access to the same services on military bases (Mansfield, Kaufman, Marshall, Gaynes, & Morrissey, 2010).

One of the key resources for support to the military spouse is the Family Readiness Group (FRG), which offers official and social support to the military spouse, and each unit, all the way down to the company level, has an FRG managed by the spouses and sponsored by the Commander. By providing information and camaraderie to the military spouse, the FRG is one of the key communication channels that can be a lifeline for many people. Outside of the FRG, the social environment of the military spouse is not closely evaluated, but it is assumed that a military spouse has support from friends, family, religious groups, and non-discretionary groups (e.g., work, school), and the FRG is but one source of support available.

The Army understands that social support, especially during times of stress, is critical to enable the spouse to handle whatever comes along, and it can be found in family, friends, and social groups. A research review by Coleman and Iso-Ahola (1993)

provided evidence that social support effectively buffered stress associated with significant life events, at least in moderation.

This study was also unique compared to previous work in the area, because the participants chose the type of physical activity and their exertion level in an uncontrolled environment. Prior research has focused on predetermined specific activities, which occurred at a single point in time, and generally included only one activity such as jogging, swimming, aerobics, or water-aerobics (Berger & Owen, 1983; Berger & Owen, 1992; Piotrowska-Calka & Guskowska, 2007; Steptoe & Cox, 1988). In addition to choosing their own physical activity, the participants in this study chose and evaluated their social support and networks, such as church, friends, family, or other social activities.

Research Question

Does physical activity, social activity, or the physical activity within a social context best improve the mood of wives of deployed Army Reserve soldiers?

Criteria for the Study

The focus of the study was women whose husbands are in the Army Reserve, and have deployed to a location the military identifies as a “combat zone”, such as Afghanistan, Kosovo, Iraq, Kuwait, Saudi Arabia, or Qatar. The rank or job classification of the husbands was not relevant and therefore not disclosed. The participants were purposively selected, using a typical case of military wives with husbands assigned to Army Reserve units. All participants were expected to be between the ages of 18 and 50 and had at least a high school diploma. The participants self-selected into the study.

Assumptions

Assumptions for the study were that some participants chose not to seek emotional or physical support, that they answered all questions honestly, that they were in stable marriages (self-defined), and that were already active at some level, either physically active or socially active, or both.

Working Definitions

1. Mood – How a participant feels at any given time, either in general or in particular, including anger, frustration, vigor, tension, and anxiety.
2. Physical activity – Any activity that moves the body and expends calories above resting levels, such as swimming, jogging, bicycling, and yoga.
3. Leisure – Leisure is typically defined as activity, time, or state-of-mind. For the purpose of this study, it is any activity not obligated to school, family, or work.
4. Social support – Physical and emotional support provided by family, friends, and social groups.
5. Family Readiness Group (FRG) – According to the US Army FRG Leader's Handbook, an FRG is an officially sanctioned group that provides mutual support, assistance, and a network of communications among family members, the military chain of command, and community resources (Mancini, 2006, p. 6).

CHAPTER II

LITERATURE REVIEW

Introduction

The purpose of this study was to determine if physical activity, social activities, or a physical activity in a social context improved the mood of the participants. This chapter presents a theoretical framework for the research that was undertaken as well as a methodological background to support the processes used in both data collection and analysis.

Within the theoretical framework, the review focuses on studies promoting the benefits of physical activity, especially as it pertains to women. There are multiple studies on various activities performed at differing intensities over specific periods of time. Additionally, the review highlights the benefits of social support, as well as the types of social networks and how they influence mood. This review then focuses on the benefits of combining physical activity and social support because while there are very few studies that measure a combination of these factors, or compare those to each other, these factors are significant for the purposes of this study.

Following the theoretical framework, the review concentrates on the methodological background. The first tool reviewed will be the Profile of Mood States (POMS), one of the most commonly used mood measurement tools, as it relates to this study, as well as other commonly used quantitative mood measurement tools. Next, the

use of journals as a qualitative tool to measure the effect of physical or social activity on the participants' moods was reviewed. Finally, a review of the methodological gaps was completed.

Theoretical Framework

Self-Determination Theory (SDT) was used as a framework for the research question, a theory developed by Edward Deci and Richard Ryan (2004), with the intent to identify those elements that motivate individuals to become competent, to feel autonomous, and to be part of a community. The three needs of SDT—competence, autonomy, and interrelatedness—are interdependent when determining the motivations of individuals. Simply put, individuals desire to be self-sufficient and have freedom of choice (autonomy) yet strive for a connection to other people or with the larger community. Supporting this, a study of social support and SDT (Sheldon & Bettencourt, 2002) reported autonomy was positively correlated to relatedness. Self-Determination Theory focuses on both positive developmental tendencies as well as the myriad social environments that are incompatible with these tendencies; however, for the purpose of this study, the focus of the SDT concentrated on the positive factors of social environments and physical activities, including mood enhancement and a feeling of competency.

Self-determination is often derived from the activities and interactions during leisure time, which is defined as time otherwise not obligated to school, work, or family. The competence and confidence developed during activities that challenge individuals physically or mentally is well documented through numerous studies (Dacey, Baltzell, & Zaichkowsky, 2003; Harris, 1981). Although in abstract the benefits are known, Driver

and Bruns (1999) specifically identified a list of over 100 benefits derived from participating in recreation, many of which were within the definition of self-determination: self-confidence, self-reliance, self-competence, self assurance; independence and autonomy; and sense of control over one's life.

For this study SDT was selected as a framework for intervention due to SDT's emphasis on the intrinsic and extrinsic motivations, and it was hoped that it would provide insight into the meaning the participants attached to their physical and social activities for two factors. First, for both physical activity in a social context and the social activity by itself, the participants might become more interconnected to their family and friends, thus solidifying their integration to the larger community. The connectedness would also help them cope and manage their stresses.

Second, the participants might be able to persevere, thereby increasing their self-esteem and feeling more capable, which would lead to an increased mood state. The focus on the development of the relationships and the benefits that they provided, as well as the feeling of capability developed when participating in physical activity, both for autotelic purpose or intrinsic and extrinsic rewards. Thus, the wives would persevere through their stress and unexpected events, and by demonstrating their capability and feeling competent and strong, their moods would improve.

SDT and Physical Activity

Numerous studies in the relevant literature have detailed the positive effects of physical activity on mood, and almost all studies reviewed determined that physical activity had a positive effect on mood and self-efficacy (Guszkowska & Sionek, 2009; Kanning & Schliet, 2010; Piotrowska-Calka & Guszkowska, 2007; Robson, 2011;

Steinberg, et al., 1998; Szabo, 2003b; Yeung, 1996). Several studies conducted within the framework of SDT determined that participation in physical activity led to greater feelings of competence and autonomy (Lloyd & Little, 2010; Milne, Wallman, Guilfoyle, Gordon, & Courneya, 2008). The benefits of physical activity as a means to reduce stress levels are well documented, especially as a method for women to positively handle stress: when participating in physical activity; women felt stronger, were more confident, and were better able to handle stressful situations (Dacey, et al., 2003; Harris, 1981; Long & Haney, 1988). Within the context of SDT, physical activity provided a feeling of competence and autonomy. Other studies measuring a wide variety of activities have also determined that engaging in any physical activity lowered stress and improved mood—swimming, aqua aerobics, jogging, stationary bicycle, aerobics, and yoga (Berger & Owen, 1992; Piotrowska-Calka & Guskowska, 2007; Poole, et al., 2011; Steinberg et al., 1998; Szabo, Mesko, Caputo, & Gill, 1998).

A literature review of 81 studies on the effect of physical activity on mood determined that any type of exercise the participants were doing resulted in reduced negative mood states (Yeung, 1996), while another literature review showed that leisure activities, which included physical activity, impacted health and well-being by promoting positive moods, and its influence towards self-determination (Coleman & Iso-Ahola, 1993). A second literature review concerning the link between leisure and well-being determined the importance of building assets and strengths that led people to cope and thrive, with the side benefit of buffering against stress. The author reported that people then drew on the ability to cope and thrive, and were able to handle future challenging or threatening events (Carruthers & Hood, 2004).

SDT and Social Support

In a literature review of social support, Cohen and Wills (1985) theorized that beneficial effects of social support occurred because the large social networks provided stability as well as resources to help avoid negative experiences. Social support originates in a variety of forms, but the three most common are: 1) family, friends, and neighbors, 2) religious and leisure groups, and 3) school and work (Bolger & Eckenrode, 1991). Another study examined friendships between women that developed by the shared stressful life event of infertility, and found that these friendships helped the women “get by” and “get ahead” (Glover & Parry, 2008). This naturally extends to developing networks with others who have the shared stressful event of a military spouse being deployed to a combat zone. However, it is important to note that social support does not necessarily translate into useful support: not all support will provide the skills and feelings to minimize stress. There are two significant findings in reference to the type and quality of support. First, although there are many types of social networks, the most important ones for reducing stress were discretionary contacts: friends, family, neighbors, and religious and leisure groups. Less discretionary contacts, such as those in school and work, did not protect against the effects of stress (Bolger & Eckenrode, 1991). Second, the quality of the support rather than the availability of the support was more important to reducing stress (Cohen & Wills, 1985). Defining something as “support” did not meet the criteria to reduce stress, which was pointed out by Cohen and Wills (1985) where, at least at a general level, lack of positive support can lead to negative moods, possibly leading to physical ailments or behaviors. Conversely, positive support acts as a stress buffer, intervening between stress and its effect on mood. Within the

context of SDT, meaningful social support leads to a feeling of connectedness, providing a feeling of strength and competence.

SDT and Physical Activity in a Social Context

This literature review examined the individual aspects of exercise and social support as it relates to SDT, primarily because most studies focused on one stress reducer: a specific physical activity, relaxation activity (relaxation response, yoga, tai-chi), or social support. Very few studies have compared the different stress reducers to each other. One such study conducted by Berger, Friedmann, and Eaton (1988) compared jogging, the relaxation response, and group interaction. The authors reported that jogging and the relaxation response were more effective in reducing stress than the group interaction. The idea of combining physical activity with the social aspect is significant because both together show a greater improvement in outlook and mood than when considered singularly. Additionally, a literature review on actual social contact while being physically active (active engagement) is an agreed-upon strategy that increased positive mood and pleasure (Carruthers & Hood, 2004). Lloyd and Little (2010) conducted a study within the framework of SDT which determined that if physical activity within a social context is conducted in a supportive environment, the psychological well-being of the participant increased. This is consistent with the feelings of connectedness and competence received from strictly social support.

The employment of physical activity in a social setting is not new: leisure has been demonstrated to be highly social in nature and has facilitated the development of friendships (Coleman & Iso-Ahola, 1993). The same Coleman and Iso-Ahola (1993) literature review on the benefits of leisure-generated social support as protection against

stress determined that shared leisure activities designed for enjoyment with friends improved the psychological well-being of the participant.

Use of Profile of Mood States (POMS) in Research

Background.

The POMS is a prevalent tool used to measure mood state across a wide range of activities and situations, from simple analysis to longitudinal studies using various activities. An online search of the tool revealed that almost 2600 articles cite the use of POMS in research. The POMS was developed in 1971 to evaluate mood state and mood changes, and met a need to effectively identify and measure those changes. The POMS measures 65 items within six mood constructs (subscales): anger, confusion, depression, fatigue, tension, and vigor (McNair, Lorr, & Droppleman, 1971, p. 5). Some researchers use an altered POMS scale: Lane and Lovejoy (2001) used the 24-item POMS-Adolescent (POMS-A) for brevity; Szabo (2003a) reduced it to a 40-item questionnaire to customize it for his use; and Steptoe and Cox (1988) added three “exhilaration” items and eliminated the “anger” and “depression” subscales. Although the latter two research teams adjusted the POMS scales for their own use, Lane and Lovejoy (2001) used an accepted and validated POMS-A.

Strengths of POMS.

POMS has been used to measure mood in athletes since its development in 1971, and its frequency of use has increased since it was initially used by William Morgan in 1977; the increasing usage is reflective of its utility as a research tool (Snow & LeUnes, 1994). Additionally, it has been reported to be useful in detecting mood fluctuations associated with exercise (Berger & Motl, 2000; Berger, et al., 1988). In particular, the

POMS measures several mood subcomponents within a wide variety of activities, and the sensitivity of the subscales allows researchers to examine a large number of activity levels within exercise and sport settings, as well as their effect on mood (Berger & Motl, 2000).

Weaknesses of POMS.

As prevalent as the POMS has been utilized in research studies, there are weaknesses that have been identified in the literature. The primary weakness of POMS is that it was initially developed for use within clinical populations (Berger & Motl, 2000; Lane & Lovejoy, 2001). Despite this identified weakness, the POMS authors addressed this in their Manual: “The POMS also has proved to be a sensitive measure of the effects of various experimental manipulations upon normal participants and other nonpsychiatric populations” (McNair, et al., 1971, p. 5). Other weaknesses include:

- The POMS authors failed to define “mood”, as well as the examined emotional states (Guszkowska & Sionek, 2009).
- POMS primarily focuses on negative mood states (Berger & Motl, 2000; Steinberg et al., 1998).

Other Quantitative Measurement Tools

There are a wide variety of measurement tools that have been used in studies on physical activity and mood, but the most prevalent is the POMS. Some researchers used the State Trait Anxiety Inventory (STAI), in conjunction with POMS (Berger & Owen, 1992; Guszkowska & Sionek, 2009; Piotrowska-Calka & Guszkowska, 2007; Steptoe & Cox, 1988; Szabo, 2003b), which is a 20-item inventory that measures the participant’s anxiety, where the participant indicates how he/she feels, using a four-point scale.

Other researchers used the Subjective Exercise Experience Scale (SEES), with a 12-item rating scale that uses 1 (“not at all”) through 7 (“very much so”) to gauge three factors: positive well-being, psychological distress, and fatigue (McAuley & Courneya, 2004). During the validation of the scales, the authors determined that the SEES possesses favorable psychometric properties and is easily administered.

Researchers have also used the Exercise Induced Feeling Inventory (EIFI), which consists of twelve items that capture four feeling states: revitalization, tranquility, positive engagement, and physical exhaustion. The subscales have been validated, have been shown to have good internal consistency, and appeared responsive to different activities in social settings (Gauvin & Rejeski, 1993; Szabo, et al., 1998).

The POMS was used in this study because of its prevalence, consistency, validity, and reliability.

Use of Journals as Qualitative Measure

To enhance and deepen the quality of the quantitative data collected from participants, social researchers have used journals to collect additional information. Two journal articles reviewed studied the effect of social support on stressful events (Bolger & Eckenrode, 1991; Gleason, Iida, Shrout, & Bolger, 2008), which used initial questionnaires, then provided daily journals in which participants addressed defined topics provided by the researchers. This method allowed private reflection time for the participants, without the intrusiveness of interview questions. Another study used a rating scale, then asked the participants to provide two or three sentences describing their most difficult or challenging event that day (Giacobbi, Tuccitto, & Frye, 2007). Kanning and Schlicht (2010) used a Likert rating scale for mood before and after physical activity,

combined with a standardized journal over the study period. These methods described above provide a deeper understanding of the participants and allow for more useful analysis than just the use of the four-point rating scale provided. A similar qualitative method was used in this study because, based upon the literature review, it should provide a deeper knowledge and understanding of subject responses.

Methodological Issues and Gaps in Research

Although there is substantial research on mood, there are significant limitations to the existing research. First, additional research that combines both physical activity and social benefits is limited. However, Dacey, et al. (2003) provided some insight about the question as they determined that actual social contact while being physically active was more important to vigorous exercisers than moderate exercisers. Second, most previous studies measured leisure; even though physical activity falls within the definition of leisure, physical activity has its own benefits distinctive of other leisure activities such as reading, shopping, and dining.

Finally, most studies reviewed focused on overall mood improvement (Berger & Owen, 1983; Carruthers & Hood, 2004; Dacey, et al., 2003; Piotrowska-Calka & Guskowska, 2007), and only a limited number focused on participants with external stressors in their lives, such as school or infertility (Bolger & Eckenrode, 1991; Brown & Siegel, 1988; Glover & Parry, 2008; Roth, Wiebe, Fillingim, & Shay, 1989).

This particular study fills part of the gap by researching physical activity (see definitions) within a social context, specifically studying physical activity as leisure activity, and looking at a group that has specific stressors in their lives.

Summary

The literature demonstrates that physical activity, social support, and the combination of both positively affect the mood of the participants. As it relates to the context of SDT, the development of competence, autonomy, and relatedness are all key to the overall well-being of the individual. There are positive mood changes for a variety of populations when engaging in physical activity and when a support network is available. However, there is limited research on the specific stressors of military wives, and whether physical activity, social support, or a combination of the two will have a significant impact on their mood and outlook.

CHAPTER III

METHODOLOGY

Introduction

The purpose of this study was to determine if there was mood improvement in participants who engaged in physical activity, as well as improvements from social interaction. Additionally, the study was designed to determine if physical activity conducted in a social environment provided greater mood improvement. This chapter discusses the profile of the participants, the instrumentation used, and procedures used in the study.

The study participants were women whose husbands are in the Army Reserve deployed to a combat zone, and to determine if participating in physical activity, social activity, or physical activity within a social context best improved the mood of the participants. The purpose of studying women in particular was because women handle stress differently than men (Berger, et al., 1988; Mansfield, et al., 2010). During their study, Berger, et al. (1988) found that although women initially were equally as stressed as the men, all three of the stress reduction techniques produced greater stress reduction in the women. Mansfield, et al. (2010) conducted a study of the use of mental health services by spouses of deployed military members, and restricted their study to wives because there was no persuasive evidence that male spouses handled stress similarly to female spouses. They believed that it was not appropriate to generalize the responses for

both husbands and wives.

Participants

Potential participants had at least a high school diploma, whose husbands were deployed overseas to a location that the military identifies it as a “combat zone”, which includes Afghanistan, Kosovo, Iraq, Kuwait, Saudi Arabia, or Qatar. Following IRB office approval at Texas State University-San Marcos (Appendix A), the researcher coordinated with the Office of Research Protections at Fort Detrick to ensure that there were no regulations preventing her from contacting the Family Readiness Groups (FRGs). Next, participants were recruited by contacting individual FRG leaders of deployed units, who then provided the researcher’s contact information to their group members. If someone was interested in participating in the study, she contacted the researcher via e-mail, who then sent her a demographic sheet (see Appendix B) to complete that ensured that she met the defined parameters. Five volunteers who met the criteria were selected for inclusion, signed a consent form (see Appendix C) and they were assigned pseudonyms to protect their identity.

Instrumentation

This was a mixed methods study, using a quantitative method (POMS) to rate the participants’ mood states and a qualitative method (surveys/journals) to gather more in-depth mood states and individual activities.

To better identify the mood state of the participants and to provide a baseline of their mood state as well as determine overall mood change over the six-week data collection period, participants completed a quantitative pretest and posttest using the Profile of Mood States (POMS); recommended by the authors “only on a research basis

for normal participants age 18 and older who have had at least some high school education” (McNair, et al., 1971, p. 6). The original POMS subscales were used: tension/anxiety, depression/dejection, anger/hostility, vigor/activity, fatigue/inertia, and confusion/bewilderment (see Appendix D for the instrument). Mood state was determined by using college norms (McNair, et al., 1971, pp. 16-20), using the “one week” response set. Total Mood Disturbance (TMD) was determined by summing the total scores for the negative mood states then subtracting the positive mood state (Vigor-Activity). The higher the TMD score, the greater negative mood of the participant. The validity and reliability of the POMS has been established through multiple studies of exercise on mood (Berger, et al., 1988; Berger & Owen, 1983; Lane & Lovejoy, 2001; Piotrowska-Calka & Guszowska, 2007), in which the researchers studied physical activity such as yoga and swimming, and compared participants’ moods before and after each activity.

The participants completed the qualitative surveys weekly during the six-week data collection period. Participants completed a survey on Tuesdays (“Talk to Me Tuesdays”), which consisted of an online journal with measurements of mood on a Likert scale where, “1” was “very unhappy” and “5” was “very happy.” The participants were then asked to describe their social and physical activities for the week, using prompts such as, “What did you do?”, “Did you work out with someone else?”, “Did you interact with anyone”, “What is your relationship to this person/these people?”, and “What did you talk about while you interacted?” Following the subjective description, the participants were then asked to rate their change of mood using a Likert scale where, “1” was “My mood decreased significantly” and “5” was “My mood increased significantly.”

The participants then had the opportunity to expand on why their mood increased, decreased, or remained the same (See Appendix E for the instrument).

Participants completed a second, shorter survey on Fridays (“File it Fridays”) where they would choose whether they participated in a social or physical activity, briefly describe what they did and the length of time they participated in the activity, then indicated their mood change using a five-point Likert scale, where “1” was “My mood decreased significantly” and “5” was “My mood increased significantly” (See Appendix F for the instrument).

Both data surveys were conducted online using SurveyGizmo.com.

Procedures

1. Data were collected for a six-week period in October and November 2011.
2. Participants completed the POMS one week prior to starting the study (pretest), and completed a second POMS one week after the study completed (posttest).
3. During the six-week collection period, participants completed an online survey on Tuesdays and on Fridays, and all completed surveys within 24 hours.
4. Participants who completed both surveys for the week were entered into a weekly drawing for a \$15 Starbucks gift card.
5. In the naturalistic setting of this study, sometimes the participants did not exercise or socialize, which is reflective of everyday life.

CHAPTER IV

RESULTS

Introduction

The objective of the study was to determine if physical activity, social activity, or physical activity within a social context improved the mood of the participants. Data were collected using a demographic form, POMS, and weekly surveys. The participants self-selected into the study, then filled out the demographic form prior to the start of the study period to ensure they met the characteristics required for this study, which was women between the ages of 18 and 50 who had at least a high school diploma, whose husbands were deployed overseas to a location that the military identifies it as a “combat zone.”

To establish a baseline mood state, the participants completed the POMS form prior to the start of the study period, and then completed a POMS form at the end of the study period to determine end mood state. During the six week study period, participants completed a survey every Tuesday where they described any physical or social activities they engaged in during that week, and rated their mood state before and after the activity. The participants also completed a short survey every Friday that identified whether they participated in a social or physical activity, and then they indicated their mood change using a five-point Likert scale. This chapter summarizes the responses of the participants and provides the results of the specific analytic techniques utilized in the study.

Participants

The sample size for this study was five participants and there was zero attrition. All five participants completed all assessments included in the methodology for the study period.

Prior to the start of the study, the participants filled out a demographic sheet to ensure they met the parameters of the target population. Table 1 shows the descriptive characteristics gleaned from the information provided. The participants' mean age was 37.8 (median = 37 years old), the mean years of marriage was 9.4 years (median = 7.0 years), and the mean length of time the husbands had been in the Army Reserves was 14 years (median = 12.0 years). Four of the five husbands had never deployed before, and the only husband who deployed previously did so back in 2003.

Table 1. Demographic Data. Demographic data of participants, using pseudonyms.

Name	Age	Age of Husband	Years of Marriage	Number of Minor Children	Years husband has been in Army	Number of previous deployments
Ellen	37	39	11	3	12	1
Jennifer	50	49	24	1	28	0
Elizabeth	30	30	4	2	11	0
Rae	34	27	1	0	4	0
Karen	37	40	7	3	15	0

POMS

Participants completed a POMS worksheet the week before and the week following the data collection period. The possible ranges of raw scores are 0-36 for Tension, 0-60 for Depression, 0-48 for Anger, 0-32 for Vigor, 0-28 for Fatigue, and 0-28 for Confusion. Scores were converted into T-scores, using the POMS Profile Sheet (Tunis, et al., 1990), where 50 is the mean and 10 is the standard deviation. Figure 1 below shows the mean scores of the pre- and posttests using raw scores, and Figure 2 shows the T-scores, where 50 is the mean.

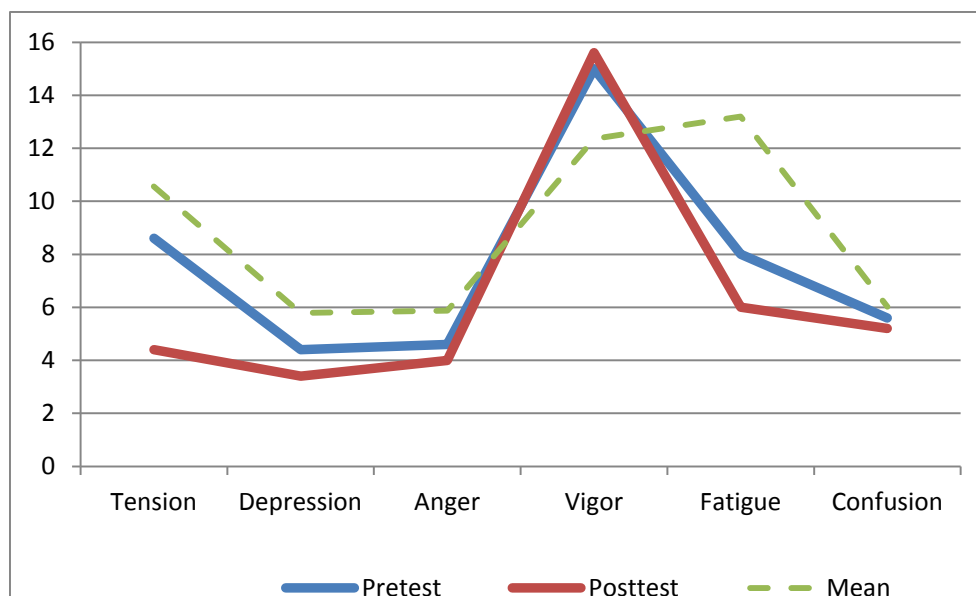


Figure 1. POMS Scores. This chart graphically shows the mean scores of the participants for each of the six mood constructs, including the normative value.

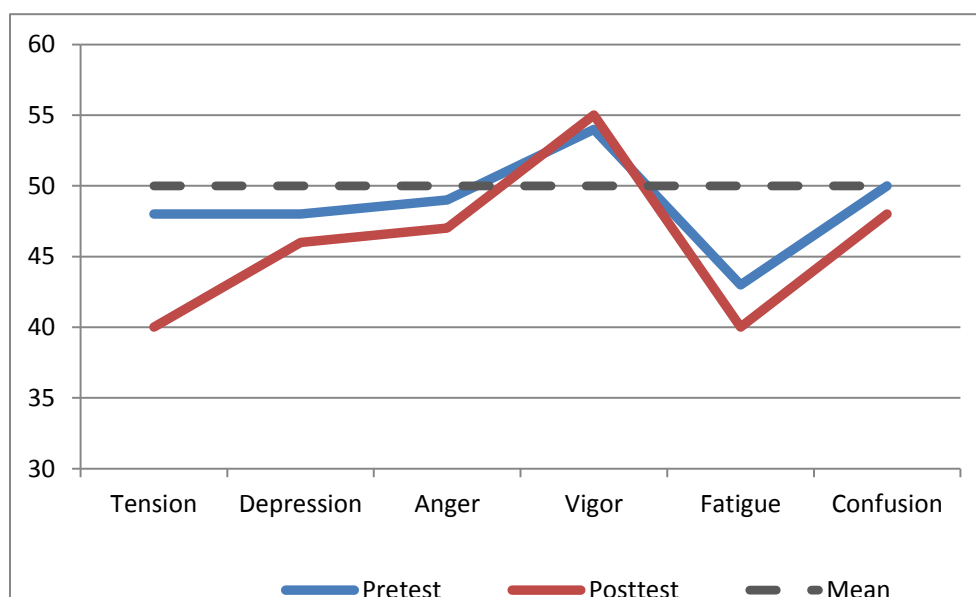


Figure 2. T-Scores. This chart graphically shows the mean T-scores for the POMS subscales, where the normative value is 50.

Tension, depression, anger, and fatigue (the “negative” mood states) decreased over the six week period, while confusion increased somewhat from a mean of 5.6 to a mean of 6.0 due to three of the five participants rating their confusion items at a higher level. Additionally, the vigor score had a slight increase from a mean of 15.0 to 15.6, which is likely reflective of four participants having a slight increase in vigor, and one participant

(Jennifer) having a slight decrease. As demonstrated in Figure 1, in both the pretest and posttest, an inverse relationship between Vigor and the six negative mood states, but especially between Vigor and Depression, was observed. When comparing the mean T-score profile of the participants to the normative profile, there was evidence of an iceberg, which is a peak in the vigor subscale, and was identified by Morgan (1980) as a tendency consistent for athletes competing at peak performance level.

Figure 3 below shows the pretest results, and shows the typical iceberg for four of the participants, however when scores are looked at individually, Karen does not have the iceberg, which indicates a lower level of vigor. Elizabeth has the iceberg, but hers is much less defined than the other participants due to her lower vigor score.

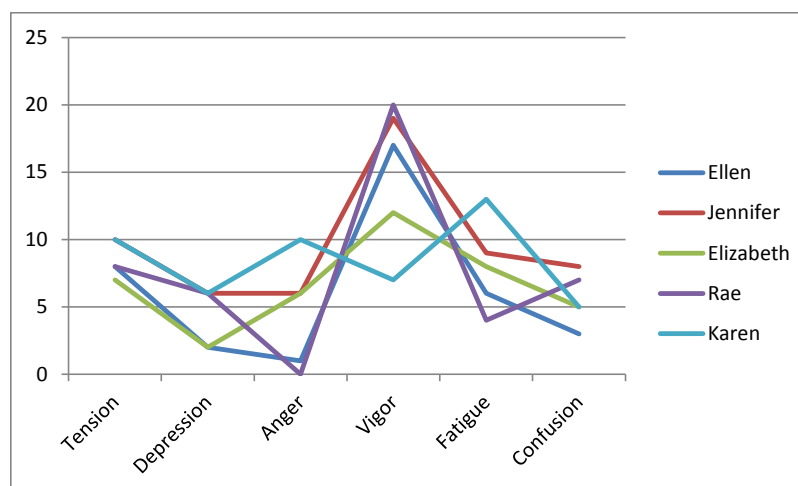


Figure 3. Individual Pretest POMS Scores. This chart graphically shows the scores for the six mood constructs of each of the participants.

Figure 4 below shows the posttest POMS results, which have a similar profile to the pretest results. As with the pretest, all participants show the iceberg, with the exception of Karen.

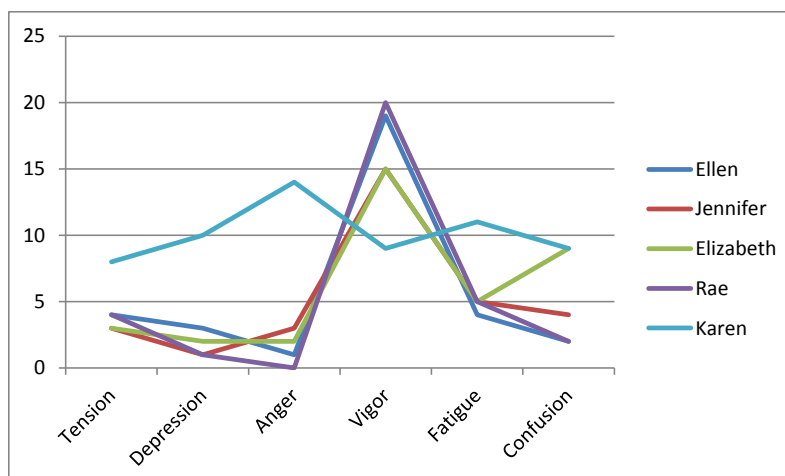


Figure 4. Individual Posttest POMS Scores. This chart graphically shows the scores for the six mood constructs of each of the participants.

Table 2 compares the pretest and posttest scores in each of the subscales for the individual participants.

Table 2. Individual POMS Scores. Pretest and posttest scores for the six mood constructs of each of the participants.

	Tension	Depression	Anger	Vigor	Fatigue	Confusion
Ellen						
Pretest	8	2	1	17	6	3
Posttest	4	3	1	19	4	2
Jennifer						
Pretest	10	6	6	19	9	8
Posttest	3	1	3	15	5	4
Elizabeth						
Pretest	7	2	6	12	8	5
Posttest	3	2	2	15	5	9
Rae						
Pretest	8	6	0	20	4	7
Posttest	4	1	0	20	5	2
Karen						
Pretest	10	6	10	7	13	5
Posttest	8	10	14	9	11	9

The Total Mood Disturbance (TMD) score is determined by summing all mood state scores, but applying a negative value to the Vigor score, as recommended by the authors of POMS as a reliable method due to the inter-correlations between the six subscales (McNair, et al., 1971, p. 9). The individual results for this study are shown in

Figure 5. All participants except for Karen show a decrease in TMD scores, which could imply an improved mood state over the six-week period for the other participants. Karen also had a higher negative mood state for tension, anger, and fatigue. Ellen and Rae both had a TMD with a negative value in the posttest, which only indicated a higher level of vigor and/or lower negative mood states than the other participants.

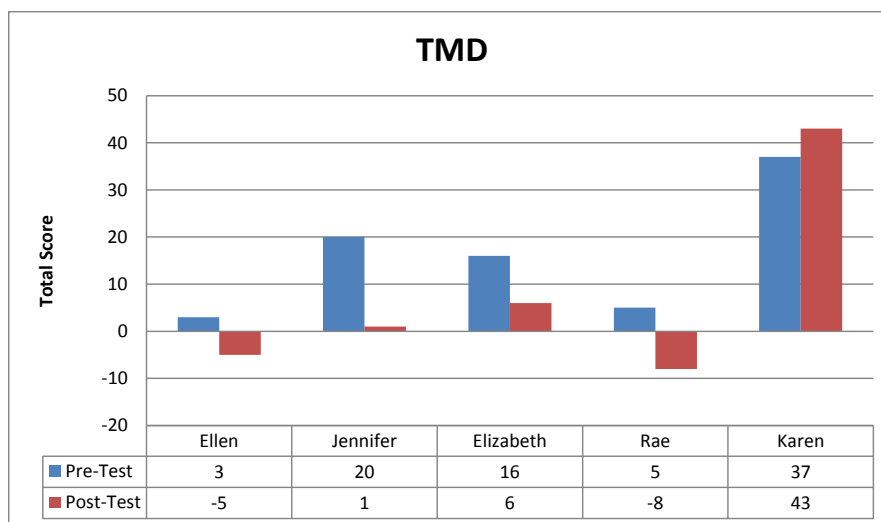


Figure 5. Individual TMD. This chart shows the pretest and posttest Total Mood Disturbance of the individual participants.

Weekly Surveys

Weekly surveys were completed by the participants during the six-week collection period, consisting of “Talk to Me Tuesdays” which, used both a Likert scale and provided the participants an opportunity to describe their mood and activity for the week, and “File it Fridays” which, used a Likert scale to gauge general mood state and whether mood state improved after physical or social activity. The study results were analyzed for the effect of physical and social activity on mood enhancement and, in general, the participants’ qualitative verbiage supported the quantitative results.

On “Talk to Me Tuesdays”, the participants reported an increased positive mood state following both physical activity and social activity at almost the same rate (52.9%

compared to 55.6%), however, on “File it Fridays”, when describing why their mood increased, 93.3% of the time, the participants selected social activity more than physical activity. The remaining 6.7% of the time, the participants commented that both the physical activity and social activity participated in that week improved their mood. There was no mention of physical activity contributing solely to their improved mood state.

On “File it Fridays,” participants completed a survey that indicated whether they had participated in social or physical activity, or both, and whether it improved their mood state. They answered specific, concurrent questions about physical and social activity, and evaluated their pre-activity and post-activity mood state. The five participants were active during the six-week study period, participating in some type of activity 86.7% of the time. When participating in physical activity, the participants reported mood improvement 82.4% of the time. During the remaining 17.6% (three instances) of the time, mood stayed the same, and mood never decreased following physical activity. When they participated in a social activity, the participants reported mood improvement 88.9% (eight instances) of the time. The remaining 11.1% (one instance) of the time, mood stayed the same, and mood never decreased following social activity.

A process of constant comparison on the qualitative and quantitative data was used to identify themes that reflected the feelings of the subjects as they participated in social and physical activity. The process of open coding was used to develop broad themes, then axial coding was used to determine the key components, and finally selective coding in order to focus in on specific themes. Despite using an inductive method to determine themes, the three core themes that developed were in line with Self

Determination Theory (SDT): connectedness, competence, and autonomy. The primary theme was connectedness, where the participants continually reflected on the time with their friends and family, and how that interaction impacted on their mood. Although the participants were more physically active than socially active during the study period, the social interaction was the most important factor in determining their mood.

Connectedness

In general, the participants reported overall mood enhancement following both physical and social activity, and the stress-buffering effects are evident by examining the changes in mood before and after activity in both of the weekly surveys. The support from friends and family, even when just having them there to share experiences, increased the mood of the participants. Elizabeth wrote, “It always helps to get out of the house and be surrounded by friends and family to keep you from being sad or depressed. Social interaction is healthy and it always helps me feel better when it's positive social interaction.”

Getting together with friends and family (unstructured social activity) gets their minds off things and lets them focus in on enjoying the moment. Jennifer faced the deployment of her husband to a combat zone at almost the exact time that her oldest child, a son, left for college, and throughout the six weeks of data collection, she mentioned her worry about both, but used the support of her friends to help her get through. She wrote,

(My good friend and I) went to dinner on Saturday night, also invited her husband. I was feeling a bit blue so it was nice to have something to occupy my mind and someone to talk with. We both have sons in college so it was good to get her perspective on things.

Then following week, Jennifer wrote again,

I continue to worry about my son in college. Very anxious about how he is doing. Wishing I could see him in person. Can't figure out why I am so worried. On Saturday I went to a flea market with a friend. My social life is pretty limited. The flea market kept my mind occupied and off of my son. I enjoy being with my friend. She is a good listener and I can be myself with her.

Relaxing within a social context was a primary goal for the participants, and they reported on it both positively and negatively. After preparing for and participating in a baby shower for a family member, Ellen stated, "I was happy I was able to help and was able relax and have fun." Jennifer had a night out with several of her female friends, and mentioned, "It was such a relaxing and fun time." Conversely, Karen is frequently stressed out and feels that she cannot get it all done in a day, and commented, "...sometimes I feel overly tired, and don't fully relax and enjoy myself."

Despite the strength of these participants to hold everything together at home, sometimes the stress got to them, as indicated by Karen who wrote about her mood,

Upset my husband, who is deployed. Had to call in sick for work to care for a sick child, and Internet, phone and cable are not working at my house. A very bad day. I went to Wurstfest with a friend who was babysitting a 2 year old. With my three kids. It was fun to hang out with my friend for a few hours.

The participants admitted to feeling blue and slightly depressed because of their increased responsibilities, difficulty dealing with children on their own, and friends that let them down. They are dealing with loneliness, stress, anxiety, and depression, but having the support network keeps them grounded. As mentioned earlier in this section, Jennifer was dealing the double-blow of having her oldest child leave for college around the time her husband left on his first deployment in their 24 years of marriage. She wrote, "I was feeling pretty blue Saturday night and very lonely. Having dinner and talking with my friend helped me put things in perspective and took my mind off of my worries for a while."

She wrote the following week,

Bottom line: It would be helpful to have my spouse here to talk with and support me. I can manage many things but now have a lot on my plate professionally and personally. I don't like to bother him with my concerns but some things have to be talked about together. I could also use a hug from him.

Rae had the added burden of her husband's lack of employment options when he returns from deployment and his talk about extending his tour overseas. With her busy work schedule, Rae did not always get the time she needed with her friends or to work out, and she explained, "Social activity is most often uplifting, however this week has been full of work. My husband is considering an extension to his tour due to the lack of jobs here I have had long days at work and then come home to research potential employment for my husband."

Rae had been going through a rough time since her husband deployed, mostly due to the abandonment of her by women she considered her true friends. Almost immediately following her husband's departure to Afghanistan, her friends began to fall by the wayside. She explained, "I began to miss my social outings with the girls. More so, it just plain hurt. I feel as though they anticipated that I might become a burden." Rae quickly realized what was happening, and instead sought out friends that more closely resembled what she needed at that time, and she also focused on building her own structured social network. Rae did not have an FRG that she felt comfortable with, so she developed her own social group that met to put together care packages for her husband's unit, a group that she affectionately called "the hens." Even though the other "hens" were not affiliated with the military in any way, the group provided Rae the supportive network she needed. At the end of week one, Rae summarized her week by writing, "Sunday evening I spent some time with another neighbor, Cindy, working on Christmas

stockings we are making for my husband's unit. I enjoy spending time with these women. They are the majority of my social activity." At the end of week five, she wrote, "I caught up with the 'hens' for a committee meeting for our x-mas project for the soldiers..." and:

I had a long conversation with my aunt, chatted with grandma, and even managed to get a couple of return calls from my estranged good friends!! I have been having some stressful and emotional issues lately and my social interactions were all very helpful!

A common thread throughout the study period was the opportunity to vent their stress, especially to women who are going through or have gone through the same situation.

Karen wrote:

I also visited with a friend at her house for a quick visit (30 min). She also had a husband who was deployed a while ago, so she can relate to my situation and empathize with my situation. Sometimes it is nice just to vent my frustrations with friends who understand.

Elizabeth took some time to visit with a friend who was also an army wife, and she wrote, "We just hung out, talked, and relaxed without our kids."

Conversely, when the family and friends caused more stress, the participants' moods decreased. Time spent with friends and family showed the greatest mood enhancement, but even FRG or other structured involvement increased mood, however, as evidenced by Elizabeth's experience, familial interaction can also reduce mood.

Elizabeth tried to have a get-together with her in-laws just before her husband deployed, but their mood and lack of support from her husband made her feel worse, which she explained by writing:

It was stressful and my in-laws caused a lot of problems for me and I had no emotional support from my husband as he defended them and then only worried about his feelings because he was the one deployed not me.

Karen was looking forward to a trip to Boston to visit family, and attended a surprise birthday party for her mother, which should have been fun, but she wrote, “It was difficult to relax in a restaurant setting with three small kids running around. I guess they put a little damper on my ability to relax and enjoy family.”

Competence and Autonomy

The participants stated that physical activity increased their self-efficacy and put them in a more positive state of mind. Jennifer stated,

I have not walked as much this week but continue to go to the total body workout class with a friend from work. We are also very happy that we are just trying to get healthy and stronger and not get into a bikini. She and I promised each other we will keep going. She is a good friend at work, someone I like and respect. I like the class because I don't think about my worries.

All participants reported that they felt better after activity, and when they did not engage in physical activity, they knew they would have felt better if they had. Karen admitted in week four,

I have really let my work outs go to the wayside while being without my husband. It is really difficult to fit them in. I feel better when I work out, and enjoy going, but sometimes (everyday) I feel there are other things that HAVE to get done, that are time sensitive. I take very little time for myself.

Several of the participants stated that they enjoyed working out alone because it gave them an opportunity to think about things. Jennifer summarized by saying, “I don't usually work out with other folks, would rather be alone so I can think” and Elizabeth stated, “I have gotten used to working out alone and it truly calms me and makes me feel better every day” and “(going to exercise) classes take my mind off of worries and I feel like I am doing something good for myself.”

CHAPTER V

DISCUSSION

Introduction

This chapter summarizes the results of the Profile of Mood States (POMS) as well as the results from the “Talk to Me Tuesdays” and “File it Friday” surveys completed during the study period. The focus of the discussion is on the impact of physical activity and social interaction on the moods of the participants in the study, as well as physical activity within a social context. The results of the POMS and surveys are evaluated through the lens of the theoretical framework, based upon Self Determination Theory (SDT). Finally, the discussion examines the limitations within this study and provides recommendations for future research.

Profile of Mood States (POMS)

All of the participants except for Karen showed a decrease in Total Mood Disturbance (TMD) from pretest to posttest, demonstrating an overall increased mood state throughout the study. When comparing pretest and posttest scores or Total Mood Disturbance (TMD), Ellen and Rae both had a TMD with a negative value in the posttest, which indicates a higher level of vigor and/or lower negative mood states than the other participants. Rae attributed her higher mood state to the impending return of her husband from deployment in early January 2012. All of the participants with the exception of Karen had an iceberg profile when charting their POMS scores, a phenomenon identified

by Morgan (1980) as being attributed to athletes. A possible explanation for this with the participants in this study is that these participants self-selected into the study with the understanding that their physical activity would be measured, therefore only participants who were already active in some capacity were willing to volunteer. As identified by their level of physical activity, although not defined as athletes, they had a high likelihood of exhibiting this profile.

In addition to having an increased TMD, Karen was the only participant whom did not have the iceberg profile on either the pretest or the posttest chart. A possible explanation for this finding may be found in the qualitative portion where Karen identified many areas of stress, as well as indicated a low level of social and physical activities outside of spending time with her three children and spending time with work friends on the job. Additionally, Karen worked in an Intensive Care Unit (ICU), which required dealing with families whose loved ones were in a critical—and possibly terminal—state, and added additional stress. During the six-week collection period, Karen did not have any physical activity outside of playing with her children, she only had social activity in four of the six weeks, and she had neither physical nor social activity for the other two weeks. When Karen participated in social activity, she indicated that her mood improved somewhat or significantly. It could be surmised that Karen did not see an increase in her mood because she did not take the time to participate in physical activity, and her social activity was limited to doing activities with her children or dinner with her extended family.

Although Elizabeth had an iceberg profile for her POMS scores, it is much less defined than the other participants due to her lower vigor score. During the time period

of the pretest, her husband was mobilized for training, and in the process of deploying, and she was having a difficult time transitioning.

Physical Activity as Mood Enhancement

Although social activity was the primary mood enhancer, four of the participants were active throughout the data collection period, and stated that physical activity made them feel better, gave them time to sort out their thoughts, and put them in a more positive state of mind. This is consistent with previous studies, which indicated that physical activity reduced stress and anxiety in study participants, as supported by Berger, et al. (1988). Not only did the participants in this study frequently state that physical activity made them feel better, but it made them feel more confident about doing it on their own and using the time to sort out their thoughts. This contextual aspect supports SDT as it relates to competency and autonomy.

Social Activity as Mood Enhancement

The participants did not focus strictly on someone to vent to or commiserate with; they most often stated that just being around their friends or family doing something within a social context and sharing experiences made them feel better because it got their minds off things and let them focus in on enjoying the moment. Both Karen and Jennifer commented on the importance of having someone to talk to who knows what they are going through, and this finding is consistent with Glover and Parry's (2008) study where participants found value in friendships when going through a similar stressful period. The participants almost exclusively reported on the importance of their discretionary contacts, such as family and friends, as part of their daily lives in that they were able to relax, have fun, and talk to a sympathetic person about what they were going through.

The importance of these relationships is substantiated by Bolger and Eckenrode (1991), who not only determined that social relationships buffer daily stress, but that the most important relationships for reducing stress are discretionary. The researchers found that the non-discretionary contacts did not provide the same buffer against stress as the discretionary contacts did.

All of the participants in the study went through a period where they were feeling blue or a bit stressed because of the responsibilities on their shoulders. They showed a general understanding of the need to stay connected with family and friends, and did not allow their feelings to keep them from the social interaction. The desire for positive and purposeful social interaction was evidenced most clearly by Rae, who had been all but abandoned by her friends, but turned her women neighbors into the support that she needed. None of the participants had a structured environment of support readily available, and Rae showed the initiative to develop it for herself. The camaraderie as well as the sense of purpose was key to increasing Rae's mood.

As described in Chapter IV, Elizabeth arranged a farewell party for her husband, making sure to include her in-laws. But due to the disagreements that transpired, with the added burden of her husband taking his family's side, caused more frustration and stress at a time when both were already at an all-time high. As Cohen and Wills (1985) reported, the quality of the support is a critical part of determining mood state; in this case, Elizabeth's experience supports their findings of where the lack of positive support leads to negative moods.

Physical Activity in a Social Context

Although it was expected that there would be some impact of physical activity in

a social context on the mood of the participants, it was the least relevant to the participants in this study. The only participant who mentioned participating in physical activity with someone else was Jennifer, and although she stated she derived benefit from it, her experiences with friends in a strictly social context were the most important and had the largest impact on her mood. A word often used by the participants when describing their interactions was being able to “relax”, and participating in a physical activity might take away from that ability. Although many studies, as reviewed by Coleman and Iso-Ahola (1993), found that shared leisure activities with a friend improved the psychological well-being, it was not supported by the data gathered in this study.

Application of Self-Determination Theory

The findings of this study support the understanding of social support, that the bonds between women and their friends and family enhance their feeling of connectedness and competence. The findings directly support SDT, especially as it pertains to the participants’ connectedness to their family and friends, and that connectedness helped them cope with their husbands’ deployments as well as any other stressors in their lives. That connectedness led to increased mood state following the described social interaction. One of the sub-theories of SDT is Causality Orientations Theory, described as the individual differences in people’s tendencies to orient toward the social environment in ways that support their own autonomy, control their behavior, and motivate themselves (Deci & Ryan, 2004, p. 10). The participants in this study continually engaged in a variety of social activity because of the benefits they derived from it. In “Philosophy of Right” (2008, p. 122), Hegel states that the concrete person is

an end to himself, has desire to be connected to the larger community, and cannot be separated from it. The individual receives extrinsic value through the larger community, developing a system of “mutual dependence”, where the individual’s happiness and satisfaction is connected directly to the community’s happiness and satisfaction.

According to Hegel, “...there is formed a system of complete interdependence, wherein the livelihood, happiness, and legal status of one man is interwoven with the livelihood, happiness, and rights of all” (2008, p. 123).

The participants also stated that they derived perceived benefits from physical activity, whether they were by themselves or it was within a social context. The results support the Basic Needs Theory, another sub-theory within SDT, which explains the relationship between motivation and goals to health and well-being because the physical activity provided a stronger sense of self, which, in turn, provided the motivation to continue to participate. The autonomy support that the participants received is supported by the study conducted by Milne, et al. (2008) who determined that the participants who engaged in recommended physical activity had increased perceived autonomy. The participants found that engaging in physical activity provided them an opportunity to think through things, and often provided solutions, leading to them feeling more capable of handling the stressors in their lives. Competence was reflected by how the participants felt following the exercise while autonomy was reflected throughout their stories in how they chose to spend their leisure time. All but one participant stretched herself by doing things with friends and family and taking time to exercise, no matter how blue they were feeling.

Limitations

There are several limitations to this survey, the most prevalent of which is the small sample of five participants. The participants were selected based on specific attributes, and the criteria for inclusion were explicit: Women with at least a high school diploma between the ages of 18 and 50 whose husbands are in the Army Reserve and have deployed to a location the military identifies as a “combat zone.” Although the limited sample size allowed for more in-depth analysis from the participants, the results cannot be extrapolated to a larger population.

The second limitation to the study was that the participants in this study self-selected, which could imply a higher level of involvement in outside activities. Many military spouses are not active, either socially or physically, in the course of their daily lives, which denote that the participants in this study may not be a typical sample. As with the limitation of a small sample, the strong possibility that the participants are generally active and not necessarily typical cases means that the results cannot necessarily be applied to a less active or less involved population.

Summary and Recommendations for Future Research

The results of this study indicate a strong impact of positive social interaction on positive mood state of the five participants. The participants provided multiple specific instances and the effect on their mood, as well as insight as to why these interactions increased their mood. The results also suggest that physical activity increases the mood state on the participants, but is not as important to them as the social interactions. This could be used as a model for further study.

In general, the participants reported overall mood enhancement whether they participated in physical activity or a social activity. However, the support received from friends and family in a social context was the most important finding in this study. Although physical activity alone provided much needed “me time” for the participants as well as time to reflect and sort out their thoughts, a strong finding in this study was that the ability to share and relax with their friends and family was what the participants stated to be the most important. Finally, the results suggest little evidence of physical activity within a social context as having an effect on either positive or negative mood state.

There has been extensive research on the effect of physical activity and social interaction on mood state on a wide variety of populations, and it has ranged from a single activity at a single point of time to more longitudinal studies as well as comparing a variety of activities and their effect on mood. This particular study focused on a unique group of women who have a unique set of stressors in their lives, and the qualitative data showed a clear relationship between physical or social activity on the mood of these participants. Further research on activities that buffer stress in this under-represented group would yield useful information.

Although this study did not have indicate that there were positive effects on physical activity in a social context and its effect on increasing positive mood states, there was enough evidence to support that this should be studied more extensively in a larger sample with a similar study population.

APPENDIX A:
IRB APPROVAL



Institutional Review Board Application

Certificate of Approval

Applicant: Cheryn Fasano

Application Number : 2011D4893

Project Title: Effects of Physical Activity and Socialization on Mood of Wives of Deployed Army Soldiers

Date of Approval: 09/13/11 20:10:47

Expiration Date: 09/12/12

A handwritten signature in black ink, appearing to read "M. Blanks".

Assistant Vice President for Research
and Federal Relations

A handwritten signature in black ink, appearing to read "Jon Lane".

Chair, Institutional Review Board

APPENDIX B:
DEMOGRAPHIC SHEET

Demographic Sheet

Your name (first name only is OK)

How old are you?

Did you graduate from high school or have a GED?

Your husband's age

How long have you been married?

Do you have children living with you? How many/how old?

Would you consider yourself happily married (i.e., have not seriously considered separating/divorcing)?

How long has your husband been in the Army/Army Reserves?

How many times has he deployed, not counting his current deployment?

When did he deploy?

When will he return?

If you are selected to participate in these surveys, do you prefer to access them via a website or use a spiral notebook, which I will provide?

APPENDIX C:

CONSENT FORM

IRB Number: 2011D4893

Consent Form

You are being asked to take part in a research study. Cheryn Fasano, a graduate student at Texas State University-San Marcos (Texas State) is directing the study. You can contact her at 210-379-5838 or cs1850@txstate.edu. We are asking you be a part of this study because your husband is in the Army Reserve, on active duty. This study will measure how physical activity and social support affects your mood.

If you take part in the study, you will fill out a survey at the start and end of the study. The survey will include questions about your mood, such as whether you are feeling sad, friendly, cheerful, uneasy, or restless. You will rate your mood on a scale of 0 (not at all) to 4 (extremely). You will also complete a weekly online journal and short checklist. This study will last six weeks.

There are no known risks with the survey being used. The risk of taking part in the study is no greater than the risks in your everyday life. There are no costs for being in the study. Taking part in the study may help you think about and find activities that could improve your mood. However, we cannot promise that you will receive any benefits from this study. If during the study you feel that you need further emotional help, you can contact Military One Source at 1-800-342-9647.

Any information we collect about you, will remain confidential. You do not have to provide your name or your husband's name. Numbers will be used in place of your name. Information will be shared only with your permission or as required by law. Only descriptive data about the findings will be in my report and published. Your responses will not be given to your husband, your FRG, or any military unit. This information is for research purposes. Once the research is complete and approved by Texas State, all data will be kept in a password-protected computer in a locked office for one year.

If you decide to take part in the study, you do not need to finish all six weeks of the study. You may take away your consent and drop out of the study at any time without penalty. You may choose to not answer any question at any time for any reason. The Institutional Review Board (IRB) at Texas State reviewed and approved this research. If you have any questions about the research or your rights, please contact the IRB chair, Dr. Jon Lasser at 512-245-3413 or lasser@txstate.edu or Compliance Chair, Ms. Becky Northcut at 512-245-2102.

Please let me know if you would like a summary of the findings when the study is finished. If you have any questions, at any time please contact me at 210-379-5838 or cs1850@txstate.edu

You will be given a copy of this form to keep.

You are making a decision whether or not to take part in the study. If you sign this form it means you have read the information provided above and decided to take part in the study.


Signature of Participant

Signature of Investigator

Date

APPENDIX D:

POMS SURVEY INSTRUMENT

NAME _____ DATE _____ SEX: Male (M) Female (F)		IDENTIFICATION <table border="1"> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> <tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> </table>		0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
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Below is a list of words that describe feelings people have. Please read each one carefully. Then fill in ONE circle under the answer to the right which best describes HOW YOU HAVE BEEN FEELING DURING THE PAST WEEK INCLUDING TODAY. The numbers refer to these phrases. 0 = Not at all 1 = A little 2 = Moderately 3 = Quite a bit 4 = Extremely		<table border="1"> <tr> <td>NOT AT ALL A LITTLE MODERATELY QUITE A BIT EXTREMELY</td> <td>NOT AT ALL A LITTLE MODERATELY QUITE A BIT EXTREMELY</td> </tr> </table>		NOT AT ALL A LITTLE MODERATELY QUITE A BIT EXTREMELY	NOT AT ALL A LITTLE MODERATELY QUITE A BIT EXTREMELY																																																																																																		
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APPENDIX E:
“TALK TO ME TUESDAYS” SURVEY INSTRUMENT

1. First Name: _____

2. How did you feel in general today?

☐ 1 - Very
unhappy

☐ 2 - Unhappy

☐ 3 - Neither
happy nor
unhappy

☐ 4 - Happy

☐ 5 - Very happy

3. What influenced you to choose the response you did?

Physical activity is defined as “Any activity that moves the body and expends calories above resting levels.” For this survey, it means any movement such as exercise, sports, walking your dog, taking a hike, going for a bike ride, or playing on the playground or sports field with your kids.

4. Tell me about your physical activity over this past week.

Some things to consider as you describe your physical activity are:

What did you do?

Did you work out with someone else?

Did you interact with anyone? With whom?

What is your relationship to this person/these people?

What did you talk about while you interacted?

Social activity is defined as “Any activity with a group, friends, or family that can provide physical and emotional support.” For this survey, it can mean FRG meetings, church activities, dinner with friends or family, or social gatherings like picnics or parties.

5. Tell me about your physical activity over this past week.

Some things to consider as you describe your social activity are:

What did you do?

Did you interact with anyone? With whom?

What is your relationship with this person/these people?

What did you talk about?

Was any of it recreational or athletic?

6. Did your mood improve during or after the activity? How significant was the mood improvement?

☐ 1 - My mood
decreased
significantly

☐ 2- My mood
decreased
somewhat

☐ 3 - My mood
didn't change at
all

☐ 4 - My mood
increased
somewhat

☐ 5 - My mood
increased
significantly

7. Tell me about why you responded as you did

APPENDIX F:
“FILE IT FRIDAYS” SURVEY INSTRUMENT

1. First Name: _____

Physical activity is defined as “Any activity that moves the body and expends calories above resting levels.” For this survey, it means any movement such as exercise, sports, walking your dog, taking a hike, going for a bike ride, or playing on the playground or sports field with your kids.

Social activity is defined as “Any activity with a group, friends, or family that can provide physical and emotional support.” For this survey, it can mean FRG meetings, church activities, dinner with friends or family, or social gatherings like picnics or parties.

2. Did you do any social or physical activities this week?

☐ Social ☐ Physical ☐ Both ☐ Neither

Social Cascade:

3. Was it a structured activity (like FRG or other meeting) or unstructured activity (gathering with friends or family)?

☐ Structured ☐ Unstructured

4. What did you do? _____

5. How long was the activity?

☐ 0-30 minutes ☐ 30-60 minutes ☐ Over 1 hour

6. Did you get the kind of emotional support you were looking for?

☐ Yes ☐ No

7. What could have made it better? _____

8. Did your mood improve during or after the activity? How significant was the mood improvement?

<input type="radio"/> 1 - My mood decreased significantly	<input type="radio"/> 2- My mood decreased somewhat	<input type="radio"/> 3 - My mood didn't change at all	<input type="radio"/> 4 - My mood increased somewhat	<input type="radio"/> 5 - My mood increased significantly
---	---	--	--	---

Physical Cascade:

3. What did you do? _____

4. How long was the activity?

☐ 0-30 minutes

☐ 30-60 minutes

☐ Over 1 hour

5. Did you get the kind of emotional support you were looking for?

☐ Yes

☐ No

6. What could have made it better? _____

7. Did your mood improve during or after the activity? How significant was the mood improvement?

☐ 1 - My mood
decreased
significantly

☐ 2 - My mood
decreased
somewhat

☐ 3 - My mood
didn't change at
all

☐ 4 - My mood
increased
somewhat

☐ 5 - My mood
increased
significantly

Both, which led to either Physical or Social cascade:

3. Think about the way in which the activity made you feel. Which was more beneficial?

☐ Social

☐ Physical

Neither:

3. Do you think you could have benefitted emotionally by participating in an activity? In what way?

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VITA

Cheryn Lee Fasano was born in San Francisco, California, the daughter of Charles Harlan Swanson and Carol Ann Swanson. After graduating from Carmel High School, Carmel, Indiana, she entered Indiana University-Purdue University at Indianapolis. She graduated with a Bachelor of Science degree in Physical Education. Ms. Fasano later continued her education at the University of Phoenix, graduating with a Masters of Business Administration. She has worked in a variety of positions in the business field, most notably as an I/T Analyst at USAA for 12 years and most recently as a Program Manager for the US Army Reserve. Ms. Fasano entered the Graduate College of Texas State University-San Marcos, majoring in Recreation Management.

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This thesis was typed by Cheryn L. Fasano.