



# Avoidant Attachment to the Marital Partner Predicts Decreases in Marital Satisfaction, Stability, and Social Support During Military Deployment: A Sample of Aircrew Personnel

The Harvard community has made this article openly available. [Please share](#) how this access benefits you. Your story matters

Citation	Taylor, Melanie C. 2018. Avoidant Attachment to the Marital Partner Predicts Decreases in Marital Satisfaction, Stability, and Social Support During Military Deployment: A Sample of Aircrew Personnel. Master's thesis, Harvard Extension School.
Citable link	<a href="https://nrs.harvard.edu/URN-3:HUL.INSTREPOS:37364560">https://nrs.harvard.edu/URN-3:HUL.INSTREPOS:37364560</a>
Terms of Use	This article was downloaded from Harvard University's DASH repository, and is made available under the terms and conditions applicable to Other Posted Material, as set forth at <a href="http://nrs.harvard.edu/urn-3:HUL.InstRepos:dash.current.terms-of-use#LAA">http://nrs.harvard.edu/urn-3:HUL.InstRepos:dash.current.terms-of-use#LAA</a>

Avoidant Attachment to the Marital Partner Predicts Decreases in Marital Satisfaction, Stability,  
and Social Support during Military Deployment: A Sample of Aircrew Personnel

Melanie C. Taylor

A Thesis in the Field of Psychology  
for the Degree of Master of Liberal Arts in Extension Studies

Harvard University

November 2018

Copyright 2018 Melanie Taylor

## Abstract

This study examined the role of relationship-specific attachment to the romantic partner in predicting marital satisfaction, marital stability, and the sources of perceived social support during military deployment. It was expected that anxious and avoidant attachment to the spouse would predict more marital discord and a higher likelihood of divorce within five years of returning from deployment, and that a higher level of avoidant attachment to the spouse would predict turning to others for social support while deployed. Online survey data was collected from a sample of 53 U.S. Army, Air Force, and Air National Guard aircrew members who were married while deployed within the last five years. Data were analyzed quantitatively using Pearson correlation, point biserial correlation, multiple regression, and binary logistic regression. The results indicated there is partial support for all three hypotheses. Only avoidant attachment to the spouse predicted more marital discord, a higher likelihood of divorce, and a lower level of social support received from the spouse while deployed. However, there was no corresponding association with a higher level of social support received from sources other than the spouse while deployed. These findings may have implications for military personnel and their spouses in prevention and early intervention efforts to mitigate the effects of avoidant attachment on perceived social support from the spouse while deployed, and on marital discord and stability following deployment.

## Table of Contents

Chapter I Introduction.....	5
Divorce as Stressor: Impact on Psychological and Physical Health.....	7
Deployment as Stressor: Impact on Psychological, Physical, and Relationship Health.....	8
Social Support as a Buffer to Deployment-Related Stress .....	11
Basic Principles of Attachment Theory: Early Childhood to Adulthood .....	13
Adult Romantic Attachment: Predicts Coping during Deployment .....	16
Chapter II Method.....	19
Participants.....	19
Measures .....	21
Measure of Attachment.....	21
Measure of Social Support in General .....	23
Measure of Social Support While Deployed .....	24
Measure of Marital Satisfaction.....	26
Procedures.....	27
Data Collection, Data Cleaning, and Study Protocol.....	27
Chapter III Results .....	30
Demographic Characteristics of the Sample.....	30
Statistical Analysis of the Data.....	32
Attachment and Marital Satisfaction: .....	36

Attachment and Marital Stability.....	37
Social Support and Avoidant Attachment.....	39
Chapter IV Discussion .....	41
Hypotheses .....	42
Findings.....	42
Research Limitations and Future Directions.....	43
References.....	46

## Chapter I

### Introduction

The emotional, behavioral, and physical costs associated with marital distress and stability (divorce) among military personnel and their spouses are significant, including diminished quality of life and increased healthcare utilization (Chapin, 2011; Riviere, Merrill, Thomas, Wilk, & Bliese, 2012; Wang et al., 2015; Hyman, Ireland, Frost, & Cottrell, 2012). Although long and frequent separations from spouses due to military deployments are often cited as major stressors contributing to marital discord and divorce among military couples, data on attachment style and its relation to marital discord and divorce following deployment is sparse. Beyond the well-documented effects of military deployment as a stressor on psychological and relationship health, and social support as a buffer against deployment-related stress, this study examined the role of anxious and avoidant attachment in predicting marital satisfaction and stability within the first five years after returning from deployment, and the role of attachment avoidance in predicting who married service members turn to for social support while deployed.

Adult romantic attachment style describes the beliefs, attitudes, expectations, and behaviors of emotionally-bonded partners in the context of a romantic relationship. It is measured on two dimensions: anxiety and avoidance. Anxious attachment is characterized by a strong desire for physical and emotional intimacy, and hypervigilance to signs of rejection and abandonment. Avoidant attachment is defined by discomfort with physical and emotional intimacy and suppression of attachment-related emotions.

Low levels of attachment-related anxiety and avoidance describe secure attachment which is characterized by comfort with physical and emotional intimacy, and is associated with higher marital satisfaction and lower rates of divorce (Hazan & Shaver, 1987; Brennan & Shaver, 1990).

In this study, it was expected that (a) attachment anxiety and avoidance would be predictors of marital satisfaction following deployment, (b) attachment anxiety and avoidance would be associated with an increased likelihood of marital instability following deployment, and (c) avoidant attachment would predict lower levels of marital satisfaction, in part because those who are avoidantly attached are more likely to seek and obtain social support from people other than their spouses while deployed.

To test these hypotheses, I collected and analyzed data from a sample of U.S. Army, Air Force, and Air National Guard aircrew members who were married while deployed within the last five years. Data were collected using an online survey with embedded questionnaires asking about attachment, perceived social support (in general and while deployed), frequency and method of communication with sources of social support while deployed, and marital satisfaction and divorce. In order to conduct statistical analyses to test these hypotheses using more robust parametric tests (Norman, 2010; Carifio & Perla, 2008), attachment anxiety and attachment avoidance, which are quantitative in nature, have been substituted for “attachment style,” which is a categorical variable requiring the use of less precise non-parametric tests.

Findings from this study contribute to the existing research literature on attachment, perceptions of social support, and marital satisfaction and stability. The results may have implications for prevention and early intervention efforts to mitigate the

effects of anxious and avoidant attachment on social support while deployed, and marital discord and stability following deployment. These findings may benefit military couples by informing attachment-based couples' therapy designed to enhance secure attachment, and improve attachment-based relationship education programs frequently offered on military installations as a resource for service members and their spouses.

### Divorce as Stressor: Impact on Psychological and Physical Health

According to the 2016 Demographic Report published by the Defense Manpower Data Center (DMDC), 53.5% of active duty service members representing all four branches of the U.S. military are either married or remarried, representing 69.2% of the officer corps and 50.1% of enlisted members. Among National Guard and Reserve personnel, 44.4% are either married or remarried, including 68.6% of the officers and 39.9% of enlisted personnel. This fact underscores marital satisfaction and stability as meaningful influences on the overall psychological and physical health of a large proportion of military personnel.

Ample evidence of the protective benefits of marriage as well as the detrimental effects of divorce is documented in numerous peer-reviewed academic journal articles. Some protective benefits of marriage highlighted in previous studies include improved physical health and longevity (Sbarra, Law, & Portley, 2011; Brockmann & Klein, 2004), decreased rates of depression (Simon, 2002; Lamb, Lee, & DeMaris, 2003), less psychological distress (Strohschein, McDonough, Monette, & Shao, 2005), reduced alcohol consumption and abuse (Prescott & Kendler, 2001; Simon, 2002; Power, Rodgers, & Hope, 1999), less antisocial behavior (Barnes & Beaver, 2012; King, Massoglia, & MacMillan, 2007; Burt et al., 2010) and a lower risk of completed suicide

(Agerbo, Qin, & Mortensen, 2006). Conversely, marital distress and divorce among U.S. military personnel include a multitude of harmful mental, behavioral, and physical outcomes. In one prospective study using a large military cohort (Wang et al., 2015), investigators found associations between recent divorce and alcohol-related problems, binge drinking, weight gain, smoking initiation and relapse, new-onset posttraumatic stress disorder (PTSD), and depression. Of course, most of the protective benefits of marriage are predicated to a large degree on the health of the marriage. A high level of marital discord is more likely to serve as a source of stress rather than as a protective buffer against it. The association between higher levels of marital discord and higher levels of depressive symptoms is well-established in the research literature (Whisman, Robustelli, Beach, Snyder, & Harper, 2015).

In another study that included all U.S. military personnel from all four branches of service who had served on active duty at any time in 2005 or 2007, researchers identified a mental health diagnosis, misuse of alcohol, and divorce or separation as separate risk factors for completed suicide (Hyman et al., 2012). Furthermore, not only are marital dissatisfaction and divorce considered stressors with the potential to trigger a host of negative physical and psychological outcomes, they can also serve as the resulting negative outcome following exposure to other stressors such as deployment, especially when the service member has been exposed to combat or combat-related trauma (Vasterling et al., 2010; Smith et al., 2008).

#### Deployment as Stressor: Impact on Psychological, Physical, and Relationship Health

Evidence of the stressful nature of deployment and its effect on the psychological, physical, and relationship health of military personnel and their spouses is documented in

the research literature. Although post-deployment adjustment of most military personnel who have deployed in support of Operations Iraqi Freedom and Enduring Freedom (OIF/OEF) is successful over time, an estimated 11%–19% consistently report mental health, substance use, and relationship concerns on post-deployment questionnaires (Hoge, Auchterlonie, & Milliken, 2006; Bliese, Wright, Adler, Thomas, & Hoge, 2007; Milliken, Auchterlonie, & Hoge, 2007; Hoge, Terhakopian, Castro, Messer, & Engel, 2007). Researchers have ascribed post-deployment symptoms of posttraumatic stress disorder (PTSD) and major depressive disorder (MDD) mainly to combat exposure (Vasterling et al., 2010; Smith et al., 2008); and PTSD and high rates of combat exposure have been linked to post-deployment alcohol-related problems (McDevitt-Murphy et al., 2010; Jacobson et al., 2008; Wilk et al., 2010). Some service members who were not exposed to combat, and some who did not deploy, experience difficulties due to the stressful nature of deployment itself or due to other stressors related to military service. According to findings from the National Health Study for a New Generation of U.S. Veterans (NewGen) – a longitudinal health study conducted by the Department of Veterans Affairs in 2009 to estimate the prevalence of PTSD among OEF/OIF veterans who deployed, and OEF/OIF-era veterans who did not deploy – approximately 15.8% of veterans who deployed and 10.9% of those who did not deploy screened positive for PTSD (Dursa, Reinhard, Barth, & Schneiderman (2014).

While most often in studying the effects of deployment the focus is on the service member, deployment happens to families – not just the one who is deployed. Spouses of deployed military personnel are often adversely affected by deployment. In a retrospective study that extracted data from the electronic medical records of a large

sample of U.S. Army wives, investigators found associations between deployment status of the soldier, mental health diagnosis of the spouse, increased use of outpatient medical care, and longer length of deployment. Findings suggest wives whose husbands were deployed experienced significantly higher rates of depressive, anxiety, sleep, acute stress, and adjustment disorders and a corresponding increase in the use of outpatient medical care compared to wives whose husbands were not deployed. Also, longer deployments predicted substantially higher rates of mental health diagnoses in wives left behind compared to wives whose husbands were deployed for a shorter length of time (Mansfield et al., 2010).

Researchers in another study using a longitudinal design (Cigrang et al., 2014) who followed U.S. Air Force security forces personnel across a one-year deployment to a high-threat environment in Iraq observed high rates of exposure to combat-related stressors and significant adverse effects on both individual and relationship functioning, especially among those with lower levels of social support. Changes in emotional, behavioral and relationship functioning from pre- to post-deployment manifested as increases in PTSD symptoms, depression, hazardous drinking, suicidal thoughts, and relationship distress. Notably, among airmen with higher rates of combat-related exposure to traumatic events, individual and relationship functioning continued to deteriorate at 6-9 months post-deployment with almost one-third of airmen reporting that either they or their partners had either initiated divorce proceedings or had undertaken steps to end the relationship. Furthermore, those airmen who had previously deployed three or more times in support of OIF/OEF were at higher risk of deterioration in psychological and relationship functioning after returning from the current deployment

than airmen who had previously deployed two times or less. Unsurprisingly, those airmen who demonstrated psychological resilience reported higher levels of social support from friends, family, partners, and unit members. Unit cohesion has been found to be important for survival during deployment as well as a moderator of the relationship between trauma and PTSD (Brailey, Vasterling, Proctor, Constans, & Friedman, 2007). These findings underscore the importance of social support during and after military deployment, especially after exposure to combat or combat-related trauma.

### Social Support as a Buffer to Deployment-Related Stress

The evidence in the research literature of a positive relationship between social support and psychological resilience is robust, with some studies suggesting that psychological resilience is improved in both the service member and their spouses. A multitude of research findings from studies using military samples document the benefits of social support in reducing deployment-related stress, including symptoms of PTSD, possibly as a result of empathic acknowledgement from spouses following trauma disclosures (Nietlisbach & Maercker, 2009). According to Shehan (1987), loving and positive communication from a spouse serving in a “therapeutic spouse role” can increase the likelihood of trauma disclosure and hence recovery by conveying a sense of being valued. In another study, Floyd & Riforgiate (2008) found that verbal affection predicted a better balance between cortisol and the hormone dehydroepiandrosterone-sulfate (DHEA-S), which play a role in stress and stress recovery. In other clinically relevant findings, DiMatteo (2004) determined that social support and marital status are strong predictors of medical treatment adherence, and researchers Roehrle and Strouse (2008) identified a positive correlation between psychotherapy treatment success and recovery.

Consistent with previous studies, Polusny, et al., (2011) identified post-deployment social support as a protective factor buffering the negative effects of combat exposure and PTSD. In another study, Renshaw, Rodrigues, and Jones (2008) found that disclosure of traumatic combat-related experiences attenuates spouses' psychological and marital distress by linking the military member's PTSD symptoms to combat-related experiences, rather than some aspect of the relationship. Similarly, the Renshaw and Campbell (2011) study revealed that a spouse's accurate perception of combat exposure weakened the correlation between relationship distress and the avoidance and numbing symptoms associated with PTSD. Likewise, using a subset of the U.S. Air Force security forces personnel study mentioned above, Balderrama-Durbin et al. (2013) identified the role of disclosure of combat-related experiences as a mediator in the relationship between social support and PTSD symptom severity following return from deployment. In another study, Mitchell et al., (2008) found that when men show vulnerability through disclosure, intimacy is enhanced between both partners.

Another study that measured the relationship between spousal communication frequency while deployed and PTSD symptoms at three levels of marital satisfaction among a sample of U.S. Army soldiers suggested that higher communication frequency predicted fewer PTSD symptoms, but only at the highest level of marital satisfaction (Carter et al., 2011). This effect was observed for delayed forms of communication such as letters, emails, and care packages, but not for interactive communication such as phone calls, instant messaging (IM), and video chat. Investigators surmise, in part, that thoughtfully written, effortful, and tangible objects such as emails, letters, and care packages provide sources of support that can be revisited, unlike interactive modes of

communication such as phone calls and video chat. These interactive modes of communication may also be inhibited due to lack of privacy, or more likely to result in conflict than delayed forms of communication. Because increased spousal communication at lower levels of marital satisfaction predicted higher PTSD symptomology, Laffaye, Cavella, Drescher, and Rosen (2008) suggest soldiers in discordant marriages seek another source of social support such as unit members and leaders. Beyond levels of marital satisfaction, and hypothesized in the current study, individual differences in anxious and avoidant attachment may also influence from whom social support is sought and obtained during deployment.

#### Basic Principles of Attachment Theory: Early Childhood to Adulthood

From an evolutionary perspective, in order for infants and young children to survive long enough to reach adulthood and reproduce so they can pass their genes onto their offspring, they need a caregiver who can provide them with protection from danger, security, and comfort. From this perspective, natural selection drove the evolution of the attachment system – a system of innate behaviors intended to keep primary caregivers (attachment figures), with whom the child has an emotional bond, physically and emotionally close, especially when the child is experiencing distress. When a child experiences distressing emotions like anxiety or fear, his or her attachment system is activated, the child seeks physical and emotional proximity to the attachment figure, and if the attachment figure responds appropriately, sufficiently, and consistently, the child's distress, anxiety, and fear are reduced, the attachment system is deactivated, and the child returns to exploring the environment or pursuing other activities. Difficulties arise when proximity with the attachment figure is not obtained, or the attachment figure's response

is inappropriate or insufficient, and security and comfort needs are not satisfied. Frustration of the child's attachment needs result in the attachment system remaining partially or fully activated – leaving the child upset and in a state of distress (Bowlby, 1969, 1973, 1980; Ainsworth et al., 2015; Simpson & Belsky, 2016). Over time, the child learns from positive and negative interactions with attachment figures and develops coping strategies to get their attachment needs met, referred to in the literature as “attachment styles” which are categorized based on levels of attachment-related anxiety and avoidance.

As infants and young children get older, they go on to develop other attachment relationships with close friends, and in adulthood, with romantic partners. As they accumulate a mental record of their success at eliciting proximity, comfort, and security from attachment figures, they develop attachment-related mental representations, or “working models,” of the self and of significant others (Bowlby, 1969, 1973). Beliefs, attitudes, and expectations about future relationships and romantic partners are molded by how they are treated throughout their lives by others who are close to them, especially when they are experiencing distressing emotions (Bowlby, 1969, 1973, 1980), and these experiences influence how they think, feel, and behave in romantic and other close relationships, especially during times of distress (Collins, Guichard, Ford, & Feeney, 2004).

#### Adult Romantic Attachment: Influence on Relationships and Marital Outcomes

Although Bowlby initially conceptualized attachment theory to explain infant-caregiver relationships, it was later extrapolated to understanding the emotional bonds between adult romantic partners (Bowlby, 1979; Hazan & Shaver, 1987, 1990). In fact,

attachment theory has become one of the most studied theories in adult romantic relationships (Cassidy & Shaver, 2008; Mikulincer & Shaver, 2007). Similar to infant and childhood attachment, adult romantic attachment is measured in two dimensions: attachment-related anxiety and attachment-related avoidance. Romantic partners with high levels of attachment anxiety have a strong desire for physical and emotional closeness and protection, and worry about unavailability of the partner, rejection and abandonment. Conversely, partners with high levels of attachment avoidance are uncomfortable with physical and emotional closeness and dependence on the partner, and have a strong preference for emotional distance and suppress attachment-related emotions. Whereas anxious and avoidant attachment are regarded as “insecure attachment,” partners who have low levels of attachment-related anxiety and avoidance and who are comfortable with interdependence and physical and emotional intimacy are considered “securely attached” (Selcuk, Zayas, & Hazan, 2010; Brennan, Clark, & Shaver, 1998; Feeney, 2008; Fraley et al., 2011).

According to Bowlby (1969), people are naturally compelled to want and to seek out secure attachment in their romantic relationships – even people who are themselves insecurely attached. Research supports the notion that, compared to insecurely attached partners, securely-attached partners have higher-quality marital relationships (Bartholomew & Horowitz, 1991; Gallo & Smith, 2001; Kirkpatrick & Davis, 1994; Simpson, 1990), lower rates of divorce (Hazan & Shaver, 1987; Brennan & Shaver, 1990), are more successful at resolving conflicts (Kobak & Hazan, 1991), are more independent, trusting, and committed in relationships (Simpson, 1990), and experience more positive marriage-related emotions (Collins, 1996). Even in midlife, couples who

have been married 10 years or more, insecure attachment continues to negatively affect marital quality and the positive effects of secure attachment on marital quality declines over the course of the couple's lifetime (Hollist & Miller, 2005; Hirschberger, Srivastava, Marsh, Cowan, & Cowan, 2009). In short, the type of attachment between partners predicts the quality of romantic and marital relationships, a notion that was supported by the findings in the current study.

#### Adult Romantic Attachment: Predicts Coping during Deployment

Attachment between marriage partners also predicts coping mechanisms used to manage the emotional distress caused by separation during military deployments. Maintaining an emotional connection throughout deployment strengthens a couple's ability to weather the emotional stress of deployment and reunion (Bowling & Sherman, 2008; Gottman, J. M., Gottman, J. S., & Atkins, 2011; Joseph & Afifi, 2010). In a qualitative study investigating wives' coping mechanisms in relation to attachment to their deployed husbands, Cafferky and Shi (2015) found that wives endured deployment by utilizing three different coping mechanisms that coincided with three different attachment styles: anxious, avoidant, and secure attachment. Anxiously attached wives coped by pursuing unrealistic emotional closeness to deployed husbands, which was emotionally harmful and led to feelings of hopelessness. Avoidantly attached wives coped by emotionally distancing themselves from their deployed husbands to protect their emotional well-being, but this inhibited a healthy, beneficial emotional connection with their deployed husbands. Secure wives coped by tapping into the strengths of their emotional connections with their deployed husbands, which strengthened their emotional well-being. In short, these coping mechanisms – conceptualized as attachment behaviors

– occur in the context of deployment because emotional distress caused by separation activates the attachment system.

Since marital partners' response to deployment is largely predicted by attachment, the current study aimed to gain insight into individual differences in attachment anxiety and avoidance as it relates to marital discord and divorce, as well as its role in influencing who military members turn to for social support while deployed. The goal was to contribute to the research literature in a way that could benefit marriages in order to increase the overall healthy functioning and quality of life of military personnel and their spouses, reducing strain on healthcare systems and improving efficiencies in maintaining military readiness. The strain of marital discord and divorce are often emotionally, behaviorally, and physically harmful to military personnel and their spouses. By advancing the state of knowledge of individual and contextual factors that contribute to marital distress and divorce, mental health providers could provide more effective and appropriate therapy for individuals and couples, while military family support agencies may be better able to create and deliver effective relationship education and training programs aimed at promoting healthy marriages.

Thus, the purpose of the current study was to determine (1) if anxious and avoidant attachment to the romantic partner would predict less marital satisfaction following deployment, (2) if anxious and avoidant attachment to the romantic partner would be associated with a higher likelihood of marital instability (divorce) following deployment, and (3) if avoidant attachment to the spouse would predict dependence on others for social support while deployed. It was expected that avoidant attachment would be related to more marriage problems and disruptions following deployment, in part

because those who are avoidantly attached are more likely to seek and obtain social support from people other than their spouses during deployment. In essence, this study sought to understand how deployment affects relationships in the context of attachment.

## Chapter II

### Method

This study was conducted using a correlational research design that analyzed survey data collected online from a sample of U.S. military aircrew personnel. The online survey – which was posted in two Facebook groups, the author’s Facebook page, and on LinkedIn – consisted of demographic questions, questions about social support while deployed, and three self-report questionnaires commonly used in psychological research. Survey respondents answered questions about attachment behaviors across four relationship domains (mother, father, romantic partner, and best friend), perception of social support – in general as well as while deployed, marital stability (divorce), and marital satisfaction (for those who were still married) following return from deployment. Only participants who were married while deployed within the last five years as an aircrew member onboard a specific U.S. military aircraft hosted at a military installation in the southeastern United States were included in the study.

### Participants

The final sample consisted of 53 study participants who met the inclusion criteria, who did not get screened out of the survey for any reason, and who completed the survey. Participants were recruited by posting a recruitment advertisement and a link to the survey in two Facebook groups, the author’s Facebook page, and LinkedIn. To be included in the study, survey respondents must have been married during at least one

deployment as an aircrew member onboard a particular aircraft within the past five years. Participants who had been married more than once in the last 5 years were instructed to answer questions about the spouse they were married to the longest. Participants who did not meet these criteria were excluded from study participation. Also excluded were those who (1) did not correctly respond to the CAPTCHA challenge-response test, (2) did not provide informed consent to participate in the study, (3) could not answer the “insider knowledge” question correctly which was designed to verify eligibility for study participation, (4) completed the survey in five minutes or less, and (5) indicated in the demographic section at the end of the survey that their current marital status was “single, never married.” Skip logic was set up in the survey to automatically screen out such participants by skipping them to the end of the survey, and display logic was set up to determine which questions or questionnaires would be visible to particular study participants based on their previous answers. For example, only participants who indicated they were still married to the same spouse they answered deployment-related questions about were shown the marital satisfaction questionnaire.

Although 125 people clicked on the survey link, some did not proceed past the CAPTCHA challenge-response test, some stopped at the consent page, some were screened out of the survey by the first question asking if they meet the inclusion criteria described in the recruitment advertisement, some were screened out of the survey by the “insider knowledge” question to verify eligibility for study participation as an aircrew member, and a few made it through a significant portion of the test, but did not finish it. After the principal investigator’s thorough review of the data collected, and examination of the consistency of respondents’ answers to survey questions, there were a total of 54

respondents who completed the survey, and one respondent was excluded from the study due to a response pattern that indicated careless responding (Meade & Craig, 2012). Study participants who provided an email address received a \$10 Amazon eGift certificate as an incentive for participating in the study.

## Measures

Deployment-related questions and three self-report questionnaires demonstrating acceptable measures of validity and reliability commonly used in psychological research were used to elicit information from survey respondents. The specific constructs of interest in the current study were attachment behaviors, perceived social support in general as well as during deployment, and marital satisfaction and stability following deployment. A set of instructions preceded the presentation of survey items, which were mostly closed-ended items designed to collect quantitative data that restricted the answer options to those made available by the researcher; however, three partially open-ended items were also included that allowed participants to either choose one of the answers provided, or answer in their own words in the blank space following the answer option “other.” Participants’ answers to questionnaire items were scored using procedures established and used by other researchers in previous studies.

### Measure of Attachment

*Experience in Close Relationships-Relationships Structure (ECR-RS):* Attachment patterns in close relationships were evaluated using the Experiences in Close Relationships-Relationships Structure (ECR-RS) questionnaire (Fraley, Heffernan, Vicary, & Brumbaugh (2011) – a derivation of the ECR-Revised (ECR-R; Fraley,

Waller, & Brennan, 2000). Whereas the Experiences in Close Relationships (ECR; Brennan, Clark, & Shaver, 1998) and the ECR-R are two commonly used measures of attachment in close relationships, and each contains 18 items measuring attachment-related avoidance and 18 items measuring attachment-related anxiety for a total of 36 items, they are limited in their use because they measure attachment in close relationships in general, rather than focusing on specific relationships. On the other hand, the ECR-RS uniquely enables the measurement of attachment-related anxiety and avoidance across specific relationships – mother, father, romantic partner, and best friend – with the same 9 items assessing each relationship type for a total of 36 items. This distinctive ability of the ECR-RS to measure relationship-specific attachment orientations is useful in measuring attachment “differentiation” (Donahue, Robins, Roberts, & John, 1993) in working models of attachment security across different relationship types, which allow for making distinctions between global and specific attachment, and answering contextualized questions about attachment.

Scores for attachment-related anxiety and avoidance – the two dimensions underlying attachment orientations – in each relationship domain (mother, father, romantic partner, and best friend) were assessed using 7-point Likert scales. For each item, participants were asked to indicate on a 7-point scale the extent to which they agreed or disagreed with the questionnaire item (1 = strongly disagree; 7 = strongly agree). For each relationship domain, attachment-related avoidance scores were obtained by averaging items 1 thru 6; and attachment-related anxiety scores were determined by averaging items 7 thru 9. In an effort to reduce response acquiescence, items 1 thru 4 were reverse keyed. Although these item numbers correspond to those used in the 2011

study done by Fraley, Heffernan, Vicary, and Brumbaugh, the questionnaire items were randomized in the current study. Higher scores on the anxiety dimension of the attachment questionnaire indicated a higher level of insecure (anxious) attachment and hence a lower level of secure attachment. Likewise, higher scores on the avoidance dimension of the attachment questionnaire indicated a higher level of insecure (avoidant) attachment and a lower level of secure attachment.

Psychometric properties of the ECR-RS as reported by Fraley, Heffernan, Vicary, and Brumbaugh (2011) demonstrated a Cronbach alpha reliability (internal consistency) estimate for attachment anxiety and avoidance for the romantic partner domain of .91 and .87, respectively, showing moderately strong internal consistency, and comparable to longer measures of attachment such as the ECR-R. Factorial validity was demonstrated using factor analysis of the ECR-RS items which confirmed the presence of two factors – attachment avoidance and anxiety – for each relationship domain (mother, father, romantic partner, and best friend).

#### Measure of Social Support in General

*Multidimensional Scale of Perceived Social Support(MSPSS)*: Perceptions of social support were assessed using a modified version of the Multidimensional Scale of Perceived Social Support (MSPSS), a 17-item questionnaire designed to measure subjective, perceived adequacy of social support from family, friends, significant others, and military peers (MSPSS; Zimet, G. D., Dahlem, Zimet, S. G., & Farley, 1988; Wilcox, 2010). The last item in the inventory worded “This special person is my spouse” is a True/False statement intended to clarify whether the significant other referred to as the

“special person” in the inventory is the spouse. This item was not included in the data analysis.

Survey respondents rated questionnaire items using a 7-point Likert scale indicating the extent to which they agreed or disagreed with the questionnaire item (1 = strongly disagree; 7 = strongly agree). Possible scores ranged from 16–112 with higher scores indicating higher perceived levels of social support.

In a sample of married male Army combat veterans, Wilcox (2010) uncovered psychometric properties of the MSPSS with military peers subscale items. The Cronbach’s alpha reliability (internal consistency) estimate in this study was acceptable at .73, meaning the items form a scale that exhibits reasonable internal consistency. Factorial validity was established using factor analytic methods that confirmed the existence of the four factors representing each source of perceived social support measured in the questionnaire (friends, family, significant other, and military peers).

#### Measure of Social Support While Deployed

Social support while deployed was assessed using 6 questions generated by the author. Some questions, based on the answers provided in the previous questions, were not shown to the survey respondents as determined by display logic built into the survey. These deployment-related questions measured (1) the sources and frequency of social support received from the spouse, family members, civilian friends, military friends/peers, chaplain or counselor, and others, (2) the frequency and mode of communication with sources of social support including email, phone or VoIP, online chat, IM or text, video chat, in-person, letters, care packages, or other, (3) the frequency of social support the service member *provided* to others while deployed, including the

spouse, family members, civilian friends, military friends or peers, and others, and (4) the service member's opinion about whether a higher level of social support from the spouse would have been beneficial to the relationship or helped reduce deployment-related stress. Only those whose answers indicated a low level of social support from the spouse were shown these last two questions. The final question asking if the service member was still married to the same spouse at the time the survey was completed was used to answer the hypothesis about marital stability following deployment, and it determined whether the survey respondent would be shown the marital satisfaction questionnaire. The following list of deployment-related questions was included in this section of the survey:

- Did you receive emotional help and support from people who cared about you while you were deployed?
- How did you communicate with those who helped and supported you while you were deployed?
- Did you provide emotional help and support to others you cared about while you were deployed?
- Would better communication, help, and support between you and your spouse while you were deployed have been beneficial to your relationship?
- Would better communication, help, and support between you and your spouse while you were deployed have helped reduce deployment-related stress?
- Are you still married to the same spouse?

Survey respondents rated most of the deployment-related questions using 7-point Likert scales with appropriate answer choices dependent upon the question. Two items had five answers from which to choose. Answer options ranged from: (1) 1 = never; 7 = always, (2) 1 = never; 7 = daily and (3) 1 = definitely not; 5 = definitely yes. Higher scores indicated higher levels of social support, more frequent communication, more beneficial for the spousal relationship, and more impact on reducing deployment-related stress. In other words, higher scores corresponded to more of the construct being measured.

#### Measure of Marital Satisfaction

*Marital Satisfaction Inventory–Brief (MSI-B)*: Marital satisfaction was evaluated using the Marital Satisfaction Inventory–Brief form (MSI-B), a 10-item, true-false questionnaire designed to capture marital discord (Whisman, Snyder, & Beach, 2009). Because this questionnaire classifies marital and relationship discord categorically based on evidence in previous studies suggesting the taxonic structure of marital discord (Whisman, Beach, and Snyder, 2008), it is also referred to as the Marital Taxon Self-Report Measure in the research literature. Two questionnaire items were chosen from each of the five scales on the 77-question shortened version of the Marital Satisfaction Inventory-Revised (MSI-R; Snyder, 1997) measuring global distress, time together, sexual dissatisfaction, affective communication, and problem-solving communication.

In half of the inventory items, a “true” response was coded as “discordant”, and in the other half of the items, a “false” response was coded as “discordant.” Scores were obtained by counting the number of “discordant” responses. Possible scores ranged from 0 to 10 with a score of 4 or greater differentiating discordant from non-discordant

couples. The marital relationship of study participants who scored 0 to 3 on this inventory were categorized as “non-discordant” while respondents scoring 4 to 10 were considered “discordant.” Higher scores on the questionnaire indicated higher levels of marital discord.

Psychometric properties of the MSI-B as reported by Whisman, Snyder, and Beach (2009) demonstrated a Cronbach alpha reliability (internal consistency) estimate of .82 for wives and .81 for husbands. Multiple measures of diagnostic accuracy indicated this 10-item screen exhibited excellent diagnostic accuracy in categorizing marital relationships as “discordant” or “non-discordant,” which makes this instrument useful for both clinical and research purposes.

## Procedures

Data collection, study protocol, data cleaning, and statistical analyses were performed in accordance with procedures and protocols commonly used in psychological research.

### Data Collection, Data Cleaning, and Study Protocol

The online survey used to collect and record data for this study was created using Harvard-licensed Qualtrics survey software. Prior to the commencement of data collection, this research was reviewed by the Harvard University Committee on the Use of Human Subjects in Research (CUHS) which serves as the Institutional Review Board (IRB) at Harvard University. In accordance with Air Force and Department of Defense (DoD) guidance, a military IRB review was not required since all research activities were conducted without DoD provision of resources.

After Harvard IRB approval, the author, who served as the principal investigator, recruited research participants by posting a recruitment advertisement online with a link to the survey in two Facebook groups, the author's Facebook page, and LinkedIn, where potential research participants who satisfied the inclusion criteria were likely to see it. Those who volunteered to fill out the survey were shown an informed consent page and were required to check the button indicating they read it, understood it, and agreed to participate in the study. If the button indicating consent was not checked, the respondent was skipped to the end of the survey.

The consent form, downloaded from the CUHS section of the Harvard website, informed participants (1) of the purpose of the study, (2) that their participation in the study was voluntary, (3) that their survey responses and personally-identifiable information would be confidential and how that information would be used and protected, (4) that it would take approximately 20-25 minutes to complete the survey, (5) that a \$10 Amazon eGift card would be emailed to participants after completion of the survey, (6) that study participation should only occur during non-duty hours for those participants who were still in the military, and (7) how to contact the principal researcher, thesis director, and the Committee on the Use of Human Subjects in Research at Harvard University.

After research participants provided informed consent, a CAPTCHA challenge-response test followed by two screening questions were presented. Participants were screened out of the survey if they (1) did not respond to the CAPTCHA challenge-response test correctly, (2) indicated they did not meet the inclusion criteria as explained in the recruitment advertisement, (3) did not answer the "insider knowledge" question

correctly which was designed to verify eligibility for study participation, (4) completed the survey in five minutes or less, or (5) indicated in the demographic section of the survey that their current marital status was “single, never married.” The survey was also set up so that respondents could not take it more than once. These procedural and technical strategies that were built into the survey to improve data quality and ensure sample validity by reducing the likelihood of participant misrepresentation (Kramer et al., 2014) minimized data cleaning of completed surveys, which consisted mainly of identifying irrelevant data, outliers, missing data, and inconsistencies in responses.

The survey, which elicited information about attachment, social support in general and while deployed, marital discord and divorce following deployment, and demographics of the respondent, could be completed on a computer and it was also optimized for use on mobile devices. The number of questions varied from 67 to 82 since skip logic and display logic based on responses were set up to determine which additional questions would be displayed. For example, respondents who were no longer married to the same spouse were not shown the marital satisfaction questionnaire, and those who indicated they did not receive any social support while they were deployed were not shown the follow-up questions about communication with sources of social support while deployed. At the end of the survey, those respondents who provided an email address received a \$10 Amazon eGift certificate as an incentive for participating in the study.

## Chapter III

### Results

In this study, military-related demographic information like pay grade, branch of service, and number of deployments was collected from survey participants in addition to the typical demographics commonly found in psychological research such as gender, race and ethnicity, education level, and marital status. Relevant descriptive and inferential statistical methods, tests, and procedures determined by the type of data that were collected (e.g., quantitative, categorical) were used to test the three hypotheses in this study.

#### Demographic Characteristics of the Sample

Study participants, who were geographically located around the globe, were 53 U.S. military aircrew personnel who were currently, or who had previously, served in the active duty Air Force (79.2%), active duty Army (3.8%), full-time Air National Guard (18.9%), and part-time Air National Guard (1.9%). One survey respondent was counted as a member of three groups due to his service in the active duty Air Force, and full- and part-time positions in the Air National Guard.

Participants' responses to questions about current or retired pay grade, or the final pay grade in which they served, revealed that officers represented 64.1% of the sample while enlisted personnel made up 35.9% of the sample, with an overall range in ranks from E-5 to O-6. The largest group of participants were in the pay grades O-4 to O-5

(37.7%), the second largest group was represented by O-1 to O-3 (24.5%), followed by E-5 to E-6 (20.8%), then E-7 to E-9 (15.1%), and finally O-6 and above (1.9%).

All study participants had deployed at least once to the Middle East in support of OIF/OEF, or to other locations in support of other contingency operations. In fact, the overwhelming majority of respondents had deployed multiple times. Within the last five years, 34% of survey respondents indicated they had deployed 1-2 times, 52.8% had deployed 3-4 times, and 13.2% had deployed 5 or more times.

As expected, given the gender makeup of the military, more men than women completed the survey – 75.5% and 24.5%, respectively. Survey participants ranged in age from 25-34 (47.2%), 35-44 (37.7%), and 45-54 (15.1%). None of the respondents were under the age of 25 which was somewhat surprising considering 28.5% of Air Force personnel and 31.3% of Army personnel are 25 years of age or younger (DoD, 2016).

When respondents were asked about the level of education they had completed, the majority of the sample (51%) reported having earned an advanced degree. Broken down by education level completed, respondents with a Doctorate degree represented 1.9% of the sample, 49.1% of survey respondents had completed a Master's degree, 24.5% had earned a Bachelor's degree, followed by those with an Associate's degree (22.6%), and finally 1.9% of the sample had earned some college credits, but had not completed the requirements for a degree.

Racial and ethnic data revealed that the majority of the sample identified themselves as White, non-Hispanic (77.4%). Those who reported themselves as members of racial and ethnic minority groups were Black or African American (5.7%),

Asian (5.7%), Hispanic or Latin American (5.7%), American Indian or Alaskan Native (3.8%), and Other (1.9%).

When asked about current marital status, 77.4% of the survey participants indicated they were either married or remarried, 5.7% reported being legally separated from their spouses, and 17% reported their current marital status as divorced.

### Statistical Analyses of the Data

Statistical analysis of the survey data was accomplished using Harvard-licensed SPSS Version 24 statistical software. The Likert data obtained from two of the three psychological instruments, as well as from some of the questions about social support while deployed, were treated as continuous data rather than ordinal data so that more robust parametric statistical methods could be used during data analyses (Norman, 2010; Carifio & Perla, 2008). All hypotheses testing in this study used a standard p-value of  $p < .05$  to identify results that were statistically significant.

To summarize the data, descriptive statistics for each variable were calculated and examined. Means and standard deviations were calculated for the quantitative variables including attachment-related anxiety and avoidance of the marital partner, marital satisfaction following deployment, and frequency with which participants received emotional help and support from sources of social support while deployed. Frequency distributions were calculated for the categorical variable “marital stability” which classified participants as still married, or separated or divorced, from the spouses they were married to while deployed, and for the quantitative variable measuring how often participants received emotional help and support from their spouses while deployed.

Table 1

*Attachment Anxiety and Avoidance of the Marital Partner and Marital Satisfaction after Return from Deployment*

	Minimum	Maximum	Mean	Standard Deviation
Attachment Anxiety	1.00	6.33	2.28	1.58
Attachment Avoidance	1.00	7.00	2.22	1.31
Marital Satisfaction	0	10	2.54	2.91

This table provides a descriptive summary for the variables attachment-related anxiety and avoidance with the marital partner measured with the Experiences in Close Relationships – Relationships Structure questionnaire (ECR-RS; Fraley, Heffernan, Vicary, & Brumbaugh, 2011) and participants’ scores on the marital satisfaction inventory (MSI-B; Whisman, Snyder, & Beach, 2009). A score from 0 to 3 indicates a non-discordant marriage, and a score from 4 to 10 indicates a discordant marriage. Higher scores indicate a higher level of marital discord.

Table 2

*Post-Deployment Marital Satisfaction*

	Frequency	Percent
Non-discordant	28	71.80
Discordant	11	28.20
Total	39	100.00

This table summarizes the classification of participants’ marriages as either discordant or non-discordant based on their marital satisfaction inventory scores (MSI-B; Whisman, Snyder, & Beach, 2009). A score from 0 to 3 indicates a non-discordant marriage, and a score from 4 to 10 indicates a discordant marriage. Higher scores indicate a higher level of marital discord.

Table 3

*Post-Deployment Marital Outcomes*

	Frequency	Percent
Still Married	39	73.6
Separated or Divorced	14	26.4
Total	53	100.0

This table summarizes the number of participants who were still married, or separated or divorced, from the spouse they were married to while deployed within the last five years.

Table 4

*Sources of Social Support while Deployed*

	Minimum	Maximum	Mean	Standard Deviation
Spouse	1	7	4.89	2.063
Family	1	7	4.79	1.812
Civilian friends	1	7	3.68	1.848
Military friends/peers	1	7	4.64	1.606
Chaplain or counselor	1	7	2.49	2.053
Other	1	7	1.81	1.630

This table displays how often, on average, participants indicated they received emotional help and support from 6 possible sources of social support while deployed. Answer choices were presented on a 7-point Likert scale (1 = never, 7 = always).

Table 5

*Social Support Received from the Spouse while Deployed*

	Frequency	Percent
Never	6	11.3
Occasionally	3	5.7
Sometimes	5	9.4
About half the time	4	7.5
Most of the time	11	20.8
Almost always	7	13.2
Always	17	32.1
Total	53	100.0

This table displays the frequency with which participants indicated they received emotional help and support from their spouses while deployed. Answer choices were displayed on a 7-point Likert scale (1 = never, 7 = always).

For each hypothesis, only independent (predictor) variables that were significantly correlated with the dependent (outcome) variable were included in the model. Then, for each hypothesis, those independent variables were tested for multicollinearity by performing a linear regression analysis and checking the value of the variance of inflation factor (VIF) for the predictor variables. For the outcome variable “marital satisfaction,” multicollinearity was low between predictor variables “anxious attachment” and “avoidant attachment” (VIF = 1.8); for the outcome variable “marital stability,” multicollinearity was low between predictor variables “anxious attachment” and “avoidant attachment” (VIF = 2.03); for the outcome variable “social support received from the spouse while deployed,” multicollinearity was low between the variables “anxious attachment” and “avoidant attachment” (VIF = 2.03). Multicollinearity was not

tested between predictor variables “anxious attachment” and “avoidant attachment” when the outcome variables were sources of social support other than the spouse because anxious and avoidant attachment were only correlated with the level of social support received from the spouse while deployed.

#### Attachment and Marital Satisfaction:

To test the first hypothesis that anxious and avoidant attachment to the marital partner would be significant predictors of the level of marital satisfaction following deployment, Pearson correlation, simple linear regression, and multiple linear regression analyses were conducted.

Although 53 survey respondents completed the attachment questionnaire, only the 39 respondents who were still married to the same spouse they were married to while deployed within the last five years completed the marital satisfaction inventory. Of those 39 respondents, 28 of them (71.8%) scored 0 to 3 indicating their marriages were non-discordant while 11 of them (28.2 %) scored 4 to 10 denoting their marriages were discordant. A higher score on the marital satisfaction inventory indicated a higher level of marital discord. On the attachment questionnaire, a higher score on the anxiety dimension indicated a higher level of insecure (anxious) attachment and a lower level of secure attachment. Likewise, a higher score on the avoidance dimension indicated a higher level of insecure (avoidant) attachment and a lower level of secure attachment.

There was a moderately strong positive correlation between anxious attachment scores and marital satisfaction scores ( $r = .59$ ;  $p = .000$ ), and also between avoidant attachment scores and marital satisfaction scores ( $r = .68$ ;  $p = .000$ ). This finding means a higher level of anxious and avoidant attachment to the marital partner was associated

with a higher level of marital discord. Because there was a statistically significant association between anxious and avoidant attachment to the marital partner and marital satisfaction, both independent variables were included in the regression model.

Simple linear regression showed anxious and avoidant attachment scores were both statistically significant predictors of marital satisfaction scores when analyzed separately ( $R^2 = .34$  and  $R^2 = .46$ , respectively). Multiple regression analysis which combined anxious and avoidant attachment to the marital partner in the same model confirmed the overall model predicted marital satisfaction ( $p = .000$ ,  $R^2 = .49$ ) and confirmed avoidant attachment to the spouse predicted marital satisfaction ( $p = .002$ ), but anxious attachment to the spouse did not independently predict marital satisfaction ( $p = .16$ ) in the presence of avoidant attachment.

#### Attachment and Marital Stability

To test the second hypothesis that anxious and avoidant attachment to the marital partner would be associated with a higher likelihood of marital instability (divorce) within five years of returning from deployment, point biserial correlation was used to test the association between attachment to the marital partner and marital stability, and binary logistic regression was conducted to estimate the probability and the odds of divorce.

In this study, the two categories of the dependent variable “marital stability” were “still married” and “divorced.” The “still married” category, coded as 0, was made up of participants who were still married to the same spouse they were married to while deployed within the last five years; and the “divorced” category, coded as 1, included participants who were either separated or divorced from that spouse.

There was a moderately strong positive correlation between anxious attachment scores and marital stability ( $r = .56$ ;  $p = .000$ ), and also between avoidant attachment scores and marital stability ( $r = .65$ ;  $p = .000$ ). These findings mean a higher level of anxious and avoidant attachment to the marital partner is associated with a higher likelihood of divorce.

Binary logistic regression analysis was conducted to predict the probability of divorce for each participant based on scores on anxious and avoidant attachment to the marital partner, and then those probabilities were used to predict the classification of each participant as belonging to the “still married” to the same spouse group, or the “divorced” from that spouse group. For each participant, if the predicted probability of divorce was less than .50, that participant’s predicted classification was “still married”; if the predicted probability of divorce was .50 or higher, that participant’s predicted classification was “divorced.” These predicted classifications of participants were then compared to the observed (actual) classifications of participants based on their responses to the survey question asking if they were still married to the same spouse. The percentage of participants who were correctly classified as “still married” was 94.9%; the percentage of participants correctly classified as “divorced” was 64.3%; and the overall model correctly classified 86.8% of participants as either “still married” or “divorced.” Notably, the predicted classification of participants as “divorced” was less accurate than the predicted classification of participants as “still married.” The two participants who were misclassified as divorced had a high predicted probability of divorce (76% and 78%) and scores of 8 and 10 on the marital satisfaction inventory indicating a very high level of marital discord. Thus, binary logistic regression analysis demonstrates how

accurately the likelihood of divorce can be predicted from the model, which includes both anxious and avoidant attachment to the marital partner.

Binary logistic regression analysis also calculated an odds ratio for avoidant attachment of 3.34, which means for every one-point increase in the avoidant attachment score, the probability of that participant being in the “divorced” category increases by 3.34 times. In other words, for every one-point increase in the score on avoidant attachment to the marital partner, the odds of a participant being in the “divorced” category increased by 35%.

#### Social Support and Avoidant Attachment

To test the third hypothesis that avoidant attachment to the marital partner would predict lower levels of marital satisfaction, in part because those who are avoidantly attached to the marital partner are more likely to seek and obtain social support from people other than their spouses while deployed, Pearson correlation, simple linear regression, and multiple regression were used.

Correlation analysis of the data collected from the attachment questionnaire and survey questions asking about emotional help and support received while demonstrated a moderate inverse correlation between scores of anxious attachment to the marital partner and level of social support received from the spouse while deployed ( $r = -.43$ ;  $p = .001$ ), and a moderately strong negative correlation between avoidant attachment to the marital partner and level of social support received from the spouse while deployed ( $r = -.55$ ;  $p = .000$ ). However, no other statistically significant association was found between either anxious or avoidant attachment to the marital partner and other sources of social support besides the spouse while deployed. This finding means a higher level of anxious and

avoidant attachment to the spouse was associated with a lower level of social support received from the spouse while deployed. However, there was not a positive correlation between anxious or avoidant attachment to spouse and higher levels of social support from family, civilian friends, military friends or peers, chaplain or counselor, or others. Accordingly, only the level of social support received from the spouse while deployed was included in the regression model.

Simple linear regression analysis found that scores of both anxious and avoidant attachment to the marital partner predicted the level of social support received from the spouse while deployed when analyzed separately ( $R^2 = .19$ , and  $R^2 = .30$ , respectively). Multiple regression analysis, which combined anxious and avoidant attachment to the marital partner in the same model, confirmed the overall model and avoidant attachment to the spouse predicted the level of social support received from the spouse while deployed ( $r = .55$ ,  $R^2 = .31$ ,  $p = .000$ , and  $p = .005$ , respectively), but, in the presence of avoidant attachment, the statistical significance of anxious attachment to the spouse as a predictor of the level of social support received from the spouse while deployed disappeared ( $p = .646$ ).

## Chapter IV

### Discussion

Because a military member's response to separation during deployment in the context of his or her marital relationship is largely predicted by attachment, the purpose of the current study was to gain insight into individual differences in attachment anxiety and avoidance as it relates to marital discord and divorce, as well as its role in influencing who military members turn to for social support while deployed.

Because the strain of marital discord and divorce is often emotionally, behaviorally, and physically harmful to military personnel and their spouses, the goal of this study was to advance the state of knowledge of individual and contextual factors that contribute to marital discord and divorce to improve the overall healthy functioning and quality of life of military personnel and their spouses, reducing strain on healthcare systems, and improving efficiencies in maintaining military readiness. Insight gained from the findings will contribute to the vast body of research literature that mental health providers rely on in the provision of effective and appropriate therapy for individuals and couples, which enables military family support agencies to improve the quality and delivery of effective relationship education and training programs aimed at promoting healthy marriages.

## Hypotheses

In this study, it was expected that (a) attachment anxiety and avoidance of the marital partner would predict marital satisfaction following deployment, (b) anxious and avoidant attachment to the marital partner would be associated with a higher likelihood of marital instability following deployment, and (c) avoidant attachment to the marital partner would predict lower levels of marital satisfaction, in part because those who are avoidantly attached are more likely to seek and obtain social support from people other than their spouses while deployed.

## Findings

Overall, the results of this study partially supported all three hypotheses. Analyses of the data show that although higher levels of attachment-related anxiety and avoidance of the marital partner were related to higher levels of marital discord and lower levels of marital satisfaction, only avoidant attachment to the spouse predicted higher levels of marital discord and lower levels of marital satisfaction within five years of returning from deployment. Similarly, data analyses demonstrated that higher levels of attachment-related avoidance of the marital partner, but not attachment-related anxiety, were associated with a higher likelihood of divorce within five years following return from deployment. It is possible that anxiously attached people are less likely to divorce and more likely to hang on because loss of the attachment figure is what they are anxious about, whereas in avoidant attachment, they cope by keeping their distance and this would make leaving the marriage simply more of the same type of behavior.

Finally, although correlational analysis suggested that higher levels of anxious and avoidant attachment to the spouse were related to lower levels of perceived social

support received from the spouse while deployed, only avoidant attachment predicted a lower level of social support received from the spouse during deployment. There was no relationship between a higher level of avoidant attachment to the spouse and the level of perceived social support received from family, civilian friends, military friends or peers, chaplain or counselor, or others. It is possible that a relationship would have emerged between a higher level of avoidant attachment to the spouse and a higher level of perceived social support received from sources other than the spouse in a larger sample. It is also possible that higher attachment avoidance of the spouse would have been related to a lower level of perceived social support received from other sources in a larger sample. Such an explanation is plausible in light of the discomfort with emotional disclosure, suppression of attachment needs, and discomfort with dependence on others inherent in avoidant attachment. Most people carry similar attachment patterns developed in childhood into their future relationships, and not only their marital relationships. People who exhibit avoidant attachment to their spouses may avoid close relationships with others more than people with either a secure or anxious attachment style.

#### Research Limitations and Future Directions

Some methodological limitations of this study were (1) a correlational research design which relied exclusively on data collected retrospectively, requiring study participants to rely on their memories over the last five years when answering survey questions, (2) the possibility that one or more confounding variable(s) not measured in the study could account, or partially account for relationships between the variables that formed the hypotheses, (3) a relatively small sample size which may not be representative

of the larger population of interest resulting in difficulty generalizing the results to other branches of the active duty components of the U.S. military, the remaining Guard and Reserve components, and even ground personnel serving in the Air Force, Army, or other branches, (4) a relatively older and better educated sample than the average service member, which was likely helpful in terms of marital outcomes despite experiencing multiple deployments, but may not be representative of the larger military population, (5) spouses were not included in the study so dyadic data were not available, and (6) because the purpose of the study was to satisfy academic requirements, the DoD did not provide access to any DoD resources to conduct the study.

Ideally, future studies would incorporate a longitudinal study design using a larger sample that includes military personnel from all four branches of service. Considering members of the Guard and Reserve and non-flying ground support personnel, and comparing those who engaged in combat or served in a hostile area while deployed and those who did not, would also help to elucidate why some service members are able to maintain stable marriages while others have more difficulty. Finally, including the spouses of service members in order to collect dyadic data would be helpful, although in the present research the challenges of maintaining confidentiality if both spouses were included and gaining the cooperation of former spouses of those participants who are separated and divorced would have made it difficult. Such a longitudinal study design, which would entail collecting data at intervals over a longer period of time, would likely substantially deepen and broaden researchers' understanding of how marital relationships function during and after deployments in the context of attachment.

In future research it would be beneficial to include a mental health assessment to evaluate how divorce- and deployment-related stress affect mental health outcomes in the sample because one reason marriages break down post deployment is that service members often come home “different,” which means they sometimes develop depressive or anxiety disorder or substance abuse problems. It would also be helpful to investigate how social support aids in reducing deployment-related stress, and to conduct interviews in addition to collecting survey data in order to gather qualitative data in addition to quantitative data.

Furthermore, future use of DoD resources would give researchers access to a larger pool of potential study participants resulting in a larger sample size, which would reduce sample variability and increase representativeness and generalizability of the results. Future researchers with access to DoD personnel thru official government email addresses would be an ideal method in which to distribute the recruitment advertisement and a link to the survey, and use of DoD facilities for conducting interviews would be helpful.

Investment in future studies of social support during military deployment in the context of attachment behavior that enriches and informs attachment-based couple’s therapy and attachment-based relationship education programs that would benefit service personnel and their spouses would undoubtedly be a worthy endeavor and a wise use of resources.

## References

- Agerbo, E., Qin, P., & Mortensen, P. B. (2006). Psychiatric illness, socioeconomic status, and marital status in people committing suicide: A matched case-sibling-control study. *Journal of Epidemiology and Community Health, 60*, 776–781. doi:10.1136/jech.2005.042903
- Ainsworth, M., Blehar, M., Waters, E., Wall, S. (2015). *Patterns of Attachment*. New York: Psychology Press.
- Balderrama-Durbin, C., Snyder, D. K., Cigrang, J., Talcott, G. W., Tatum, J., Baker, M., & Slep, A. M. S. (2013). Combat disclosure in intimate relationships: Mediating the impact of partner support on posttraumatic stress. *Journal of Family Psychology, 27*, 560–568. Retrieved from <http://dx.doi.org/10.1037/a0033412>
- Barnes, J. C., & Beaver, K. M. (2012). Marriage and desistance from crime: A consideration of gene–environment correlation. *Journal of Marriage and Family, 74*, 19–33. doi:10.1111/j.1741-3737.2011.00884.x
- Bartholomew, K. & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology, 61*, 226–244.
- Bliese, P. D., Wright, K. M., Adler, A. B., Thomas, J. L., & Hoge, C. W. (2007). Timing of postcombat mental health assessments. *Psychological Services, 4*, 141–148. doi:10.1037/1541-1559.4.3.141
- Bowlby, J. (1969). *Attachment and Loss* (Vol. 1). New York: Basic Books.
- Bowlby, J. (1973). *Separation: Anxiety and Anger*. *Attachment and Loss* (Vol. 2). New York: Basic Books.
- Bowlby, J. (1979). *The Making and Breaking of Affectional Bonds*. London: Tavistock.
- Bowlby, J. (1980). *Attachment and Loss* (Vol. 3). New York: Basic Books.
- Bowling, U. B., & Sherman, M. D. (2008). Welcoming them home: Supporting service members and their families in navigating the tasks of reintegration. *Professional Psychology: Research and Practice, 39*, 451–458. doi:10.1037/0735-7028.39.4.451
- Brailey, K., Vasterling, J. J., Proctor, S. P., Constans, J. I., & Friedman, M. J. (2007). PTSD symptoms, life events, and unit cohesion in U.S. soldiers: Baseline findings

- from the neurocognition deployment health study. *Journal of Traumatic Stress*, 20, 495–503. doi:10.1002/jts.20234
- Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46–76). New York, NY: Guilford Press.
- Brennan, K. A., & Shaver, P. R. (1990). Dimensions of adult attachment, affect regulation, and romantic relationship functioning. *Personality and Social Psychology Bulletin*, 21, 267–283.
- Brockmann, H., & Klein, T. (2004). Love and death in Germany: The marital biography and its effect on mortality. *Journal of Marriage and Family*, 66, 567–581. doi:10.1111/j.0022-445.2004.00038.x
- Burt, S. A., Donnellan, B., Humbad, M., Hicks, B. M., McGue, M., & Iacono, W. G. (2010). Does marriage inhibit antisocial behavior? An examination of selection vs causation via a longitudinal twin design. *Archives of General Psychiatry*, 67, 1309–1315. doi:10.1001/archgenpsychiatry.2010.159
- Cafferky, B., & Shi, L. (2015). Military wives emotionally coping during deployment: Balancing dependence and independence. *The American Journal of Family Therapy*, 43(3), 282–295.
- Carifio, J., & Perla, R. (2008). Resolving the 50 year debate around using and misusing Likert scales. *Medical Education*, 42, 1150–1152. <https://doi.org/10.1111/j.1365-2923.2008.03172.x>
- Carter, S., Loew, B., Allen, E., Stanley, S., Rhoades, G., & Markman, H. (2011). Relationships between soldiers' PTSD symptoms and spousal communication during deployment. *Journal of Traumatic Stress*, 24(3), 352–355. doi:10.1002/jts.20649
- Cassidy, J., & Shaver, P. R. (Eds.). (2008). *Handbook of attachment: Theory, research, and clinical applications* (2nd ed.). New York, NY, US: Guilford Press.
- Chapin, M. (2011). Family resilience and the fortunes of war. *Social Work in Health Care*, 50(7), 527–542.
- Cigrang, J. A., Talcott, G. W., Tatum, J., Baker, M., Cassidy, D., Sonnek, S., .... Slep, A. M. S. (2014). Impact of combat deployment on psychological and relationship health: A longitudinal study. *Journal of Traumatic Stress*, 27, 58–65. <http://dx.doi.org/10.1002/jts.21890>
- Collins, N. L. (1996). Working models of attachment: Implications for explanation, emotion, and behavior. *Journal of Personality and Social Psychology*, 71, 810–832.

- Collins, N. L., Guichard, A. C., Ford, M. B., & Feeney, B. C. (2004). Working models of attachment: New developments and emerging themes. In *Adult Attachment: Theory, Research, and Clinical Implications* (pp. 196-239). Edited by Rholes, W. S., Simpson, J. A. New York: Guilford.
- Department of Defense, Military One Source, (2016). Demographics Report. Retrieved from <http://download.militaryonesource.mil/12038/MOS/Reports/2016-Demographics-Report.pdf>.
- DiMatteo, M. R. (2004). Social support and patient adherence to medical treatment: A meta-analysis. *Health Psychology, 23*, 207–218. doi:10.1037/0278-6133.23.2.207
- Donahue, E. M., Robins, R. W., Roberts, B. W., & John, O. P. (1993). The divided self: Concurrent and longitudinal effects of psychological adjustment and social roles on self-concept differentiation. *Journal of Personality and Social Psychology, 64*, 834–846. doi:10.1037/0022-3514.64.5.834
- Dursa, E. K., Reinhard, M. J., Barth, S. K., & Schneiderman, A. I. (2014). Prevalence of a positive screen for PTSD among OEF/OIF and OEF/OIF-era veterans in a large population-based cohort. *Journal of Traumatic Stress, 27*(5), 542–549. doi:10.1002/jts.21956
- Feeney, J. A. (2008). Adult romantic attachment: Developments in the study of couple relationships. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 456-481). New York, NY, US: Guilford Press.
- Floyd, K., & Riforgiate, S. (2008). Affectionate communication received from spouses predicts stress hormone levels in healthy adults. *Communication Monographs, 75*, 351–368. doi:10.1080/03637750802512371
- Fraley, R. C., Heffernan, M. E., Vicary, A. M., & Brumbaugh, C. C. (2011). The experiences in close relationships—relationship structures questionnaire: A method for assessing attachment orientations across relationships. *Psychological Assessment, 23*(3), 615–625. doi:10.1037/a0022898
- Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology, 78*, 350–365. doi:10.1037/0022-3514.78.2.350
- Gallo, L. G. & Smith, T. W. (2001). Attachment style in marriage: Adjustment and responses to interaction. *Journal of Social and Personal Relationships, 18*, 263–289.
- Gottman, J. M., Gottman, J. S., & Atkins, C. L. (2011). The comprehensive soldier fitness program: Family skills component. *American Psychologist, 66*, 52–57. doi:10.1037/a0021706

- Hazan, C., & Shaver, P. (1987) Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, *52*, 511–524.
- Hazan, C., & Shaver, P. R. (1990). Love and work: An attachment-theoretical perspective. *Journal of Personality and Social Psychology*, *59*(2), 270–280. <http://dx.doi.org/10.1037/0022-3514.59.2.270>
- Hirschberger, G., Srivastava, S., Marsh, P., Cowan, C. P., Cowan, P. A. (2009). Attachment, marital satisfaction, and divorce during the first fifteen years of parenthood. *Personal Relationships*, *16*(3): 401–420. doi:10.1111/j.1475-6811.2009.01230.x
- Hoge, C. W., Auchterlonie, J. L., & Milliken, C. S. (2006). Mental health problems, use of mental health services, and attrition from military services after returning from deployment to Iraq or Afghanistan. *Journal of the American Medical Association*, *295*, 1023–1032. doi:10.1001/jama.295.9.1023
- Hoge, C. W., Terhakopian, A., Castro, C. A., Messer, S. C., & Engel, C. C. (2007). Association of posttraumatic stress disorder with somatic symptoms, health care visits, and absenteeism among Iraq war veterans. *American Journal of Psychiatry*, *164*, 150–153. doi:10.1176/appi.ajp.164.1.150
- Hollist, C. S., & Miller, R. B. (2005). Perceptions of attachment style and marital quality in midlife marriage. *Family Relations*, *54*(1), 46–57.
- Hyman J., Ireland, R., Frost, L., & Cottrell, L. (2012). Suicide incidence and risk factors in an active duty U.S. military population. *American Journal of Public Health*, *102*(suppl 1): S138-S146. doi:10.2105/AJPH.2011.300484
- Jacobson, I. G., Ryan, M. A. K., Hooper, T. I., Smith, T. C., Amoroso, P. J., Boyko, E. J., .... Bell, N. S. (2008). Alcohol use and alcohol-related problems before and after military combat deployment. *Journal of the American Medical Association*, *300*, 663–675. doi:10.1001/jama.300.6.663
- Joseph, A. L., & Afifi, T. D. (2010). Military wives' stressful disclosures to their deployed husbands: The role of protective buffering. *Journal of Applied Communication Research*, *38*(4), 412–434. doi:10.1080/00909882.2010.513997
- King, R. D., Massoglia, M., & Macmillan, R. (2007). The context of marriage and crime: Gender, the propensity to marry, and offending in early adulthood. *Criminology*, *45*, 33–65. doi:10.1111/j.1745-9125.2007.00071.x
- Kirkpatrick, L. A. & Davis, K. E. (1994). Attachment style, gender, and relationship stability: A longitudinal analysis. *Journal of Personality and Social Psychology*, *66*, 502–512.

- Kobak, R. R., & Hazan, C. (1991). Attachment in marriage: Effects of security and accuracy of working models. *Journal of Personality and Social Psychology*, *60*, 861–869.
- Kramer, J., Rubin, A., Coster, W., Helmuth, E., Hermos, J., Rosenbloom, D., Moed, R., ... Lachowicz, M. (2014). Strategies to address participant misrepresentation for eligibility in web-based research. *International Journal of Methods in Psychiatric Research*, *23*(1), 120–129. doi:10.1002/mpr.1415
- Laffaye, C., Cavella, S., Drescher, K., & Rosen, C. (2008). Relationships among PTSD symptoms, social support, and support sources in veterans with chronic PTSD. *Journal of Traumatic Stress*, *21*, 394–401. doi:10.1002/jts.20348
- Lamb, K. A., Lee, G. R., & DeMaris, A. (2003). Union formation and depression: Selection and relationship effects. *Journal of Marriage and Family*, *65*, 953–962. doi:10.1111/j.1741-737.2003.00953.x
- Mansfield, A. J., Kaufman, J. S., Marshall, S. W., Gaynes, B. N., Morrissey, J. P., & Engel, C. C. (2010). Deployment and the use of mental health services among U.S. Army wives. *New England Journal of Medicine*, *362*, 101–109.
- McDevitt-Murphy, M. E., Williams, J. L., Bracken, K. L., Fields, J. A., Monahan, C., & Murphy, J. G. (2010). PTSD symptoms, hazardous drinking, and health functioning among U.S. OEF and OIF veterans presenting to primary care. *Journal of Traumatic Stress*, *23*, 108–111. doi:10.1002/jts.20482
- Meade, A. W., & Craig, S. B. (2012). Identifying careless responses in survey data. *Psychological Methods*, *17*(3), 437–455. doi:10.1037/a0028085
- Mikulincer, M., & Shaver, P. R. (2007). Attachment patterns in adulthood: Structure, dynamics and change. New York: Guilford Press.
- Milliken, C. S., Auchterlonie, J. L., & Hoge, C. W. (2007). Longitudinal assessment of mental health problems among active and reserve component soldiers returning from the Iraq war. *Journal of the American Medical Association*, *298*, 2141–2148. doi:10.1001/jama.298.18.2141
- Mitchell, A. E., Castellani, A. M., Herrington, R. L., Joseph, J. I., Doss, B. D., & Snyder, D. K. (2008). Predictors of intimacy in couples' discussions of relationship injuries: An observational study. *Journal of Family Psychology*, *22*, 21–29. doi:10.1037/0893-3200.22.1.21
- Nietlisbach, G., & Maercker, A. (2009). Social cognition and interpersonal impairments in trauma survivors with PTSD. *Journal of Aggression, Maltreatment & Trauma*, *18*, 382–402. doi:10.1080/10926770902881489

- Norman, G. (2010). Likert scales, levels of measurement and the “laws” of statistics. *Advances in Health Sciences Education: Theory and Practice*, *15*(5), 625–32. doi:10.1007/s10459-010-9222-y
- Polusny, M., Erbes, C., Murdoch, M., Arbisi, P., Thuras, P., & Rath, M. (2011). Prospective risk factors for new-onset post-traumatic stress disorder in National Guard soldiers deployed to Iraq. *Psychological Medicine*, *41*(4), 687–698. doi:10.1017/S0033291710002047
- Power, C., Rodgers, B., & Hope, S. (1999). Heavy alcohol consumption and marital status: Disentangling the relationship in a national study of young adults. *Addiction*, *94*, 1477–1487. doi:10.1046/j.1360-0443.1999.941014774.x
- Prescott, C. A., & Kendler, K. S. (2001). Associations between marital status and alcohol consumption in a longitudinal study of female twins. *Journal of Studies on Alcohol*, *62*, 589–604.
- Renshaw, K. D., & Campbell, S. B. (2011). Combat veterans’ symptoms of PTSD and partners’ distress: The role of partners’ perceptions of veterans’ deployment experiences. *Journal of Family Psychology*, *25*, 953–962. doi:10.1037/a0025871
- Renshaw, K. D., Rodrigues, C. S., & Jones, D. H. (2008). Psychological symptoms and marital satisfaction in spouses of Operation Iraqi Freedom veterans: Relationships with spouses’ perceptions of veterans’ experiences and symptoms. *Journal of Family Psychology*, *22*, 586–594. doi:10.1037/0893-3200.22.3.586
- Riviere, L. A., Merrill, J. C., Thomas, J. L., Wilk, J. E., & Bliese, P. D. (2012). 2003–2009 marital functioning trends among U.S. enlisted soldiers following combat deployments. *Military Medicine*, *177*(10):1169–77.
- Roehrle, B., & Strouse, J. (2008). Influence of social support on success of therapeutic interventions: A meta-analytic review. *Psychotherapy: Theory, Research, Practice, Training*, *45*, 464–476. doi:10.1037/a0014333
- Sbarra, D. A., Law, R. W., & Portley, R. M. (2011). Divorce and death: A meta-analysis and research agenda for clinical, social, and health psychology. *Perspectives on Psychological Science*, *6*, 454–474. doi:10.1177/1745691611414724
- Selcuk, E., Zayas, V., & Hazan, C. (2010). Beyond satisfaction: The role of attachment in marital functioning. *Journal of Family Theory & Review*, *2*, 258–279. doi:10.1111/j.1756-589.2010.00061.x
- Shehan, C. L. (1987). Spouse support and Vietnam veterans’ adjustment to post-traumatic stress disorder. *Family Relations*, *36*, 55. doi:10.2307/584648
- Simon, R. W. (2002). Revisiting the relationships among gender, marital status, and mental health. *American Journal of Sociology*, *107*, 1065–1096. doi:10.1086/339225

- Simpson, J. A. (1990). Influence of attachment styles on romantic relationships. *Journal of Personality and Social Psychology*, *59*, 971–980.
- Simpson, J. A., & Belsky, J. (2016). Attachment theory within a modern evolutionary framework. In *The Handbook of Attachment: Theory, Research, and Clinical Applications*, 3rd ed. Edited by Cassidy, J., Shaver, P. R. New York: Guilford Press.
- Smith, T. C., Ryan, M. A. K., Wingard, D. L., Slymen, D. J., Sallis, J. F., & Kritz-Silverstein, D. (2008). New onset and persistent symptoms of post-traumatic stress disorder self-reported after deployment and combat exposures: Prospective population-based U.S. military cohort study. *British Medical Journal*, *336*, 366–371. doi:10.1136/bmj.39430.638241.AE
- Snyder, D. K. (1997). *Manual for the Marital Satisfaction Inventory–Revised*. Los Angeles, CA: Western Psychological Services.
- Strohschein, L., McDonough, P., Monette, G., & Shao, Q. (2005). Marital transitions and mental health: Are there gender differences in the short-term effects of marital status change? *Social Science & Medicine*, *61*, 2293–2303. doi:10.1016/j.socscimed.2005.07.020
- Vasterling, J. J., Proctor, S. P., Friedman, M. J., Hoge, C. W., Heeren, T., King, L. A., & King, D. W. (2010). PTSD symptom increases in Iraq-deployed soldiers: Comparison with non-deployed soldiers and associations with baseline symptoms, deployment experiences, and post-deployment stress. *Journal of Traumatic Stress*, *23*, 41–51. doi:10.1002/jts.20487
- Wang, L., Seelig, A., Wadsworth, S. M., McMaster, H., Alcaraz, J. E., & Crum-Cianflone, N. F. (2015). Associations of military divorce with mental, behavioral, and physical health outcomes. *BMC Psychiatry*, *15*:128. doi:10.1186/s12888-015-0517-7
- Whisman, M. A., Beach, S. R. H., & Snyder, D. K. (2008). Is marital discord taxonic and can taxonic status be assessed reliably? Results from a national, representative sample of married couples. *Journal of Consulting and Clinical Psychology*, *76*, 745–55. doi:10.1037/0022-006X.76.5.745
- Whisman, M. A., Robustelli, B. L., Beach, S. H., Snyder, D. K., & Harper, J. M. (2015). Marital discord and depression in middle-aged and older couples: Is taxon status associated with depression? *Journal of Social and Personal Relationships*, *32*(7), 967–973. doi:10.1177/0265407514554519
- Whisman, M. A., Snyder, D. K., & Beach, S. R. H. (2009). Screening for marital and relationship discord. *Journal of Family Psychology*, *23*, 247–254. doi:10.1037/a0014476

- Wilcox, S. (2010). Social relationships and PTSD symptomatology in combat veterans. *Psychological Trauma: Theory, Research, Practice, and Policy*, 2(3), 175–182. doi:10.1037/a0019062
- Wilk, J. E., Bliese, P. D., Kim, P. Y., Thomas, J. L., McGurk, D., & Hoge, C. W. (2010). Relationship of combat experiences and alcohol misuse among U.S. soldiers returning from the Iraq war. *Drug and Alcohol Dependence*, 108, 115–121. doi:10.1016/j.drugalcdep.2009.12.003
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multi-dimensional scale of perceived social support. *Journal of Personality Assessment*, 52, 30–41. doi:10.1207/s15327752jpa5201\_2