

PROTECTIVE BUFFERING BY SERVICE MEMBERS AND ROMANTIC PARTNERS DURING MILITARY DEPLOYMENTS: ASSOCIATIONS WITH MENTAL AND RELATIONSHIP HEALTH

by

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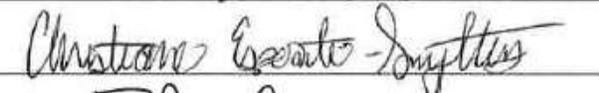
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DEDICATION

This is dedicated to the women who have crafted me into who I am by serving as examples of strength, supporting me through hard decisions, and offering never ending encouragement. Thank you to my mother, Betsy, and my late grandmother, Pat.

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I would like to thank the many friends, relatives, and supporters who have made this happen. The years of encouragement from my parents, David and Betsy, helped to keep me focused throughout my education. My loving husband, Chase, and dog, Dobby, helped me to survive and enjoy the process. My cohort, David, Fallon, Jennifer, Johanna, and Sam, ensured that graduate school did not claim my sense of humor. My incomparable advisor, Dr. Renshaw, offered unfailing support and assistance. Finally, my committee, Drs. Curby and Kashdan, were of invaluable help.

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LIST OF ABBREVIATIONS

Service member	SM
Operation Iraqi Freedom.....	OIF
Operation Enduring Freedom	OEF
Operation New Dawn	OND

ABSTRACT

PROTECTIVE BUFFERING BY SERVICE MEMBERS AND ROMANTIC PARTNERS DURING MILITARY DEPLOYMENTS: ASSOCIATIONS WITH MENTAL AND RELATIONSHIP HEALTH

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George Mason University, 2017

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Since the beginning of military operations in Iraq and Afghanistan, well over 2 million military service members (SMs) have deployed to combat zones. For SMs and romantic partners, deployments represent one of the most stressful situations in their lives, with one of the largest concerns being the wellbeing of the other partner. In order to shield each other from stressors occurring at home or in combat, both deployed SMs and at-home partners report engaging in *protective buffering*, or intentionally withholding information or concerns in an attempt to protect the other partner. Despite retrospective, qualitative studies that document the presence of protective buffering, no quantitative research has yet assessed whether protective buffering by SMs or by partners is effective or what other effects it may have on the couple.

This dissertation addresses the gap in two separate but related manuscripts. Both manuscripts utilize data from 54 military couples drawn from a larger study of Army

couples. These couples were married and provided data before, during, and after a deployment of the male soldier, in the context of follow-up assessments within the larger study. Both members of the couple answered questionnaires regarding individual psychological functioning, relationship functioning, and deployment experiences. The first manuscript explores the frequency of protective buffering by SMs during deployment, pre-existing and logistical deployment factors that may be related to levels of protective buffering, and the associations of protective buffering with individual and relationship distress in both SMs and partners during and after deployment. More than half (56%) of SMs indicated that they engaged in protective buffering at least some of the time, with an average item response of 4.51 ($SD = 1.29$) on a 1-7 scale. Of over 10 pre-deployment and deployment variables that were explored, only partners' psychological distress prior to deployment was significantly associated (negatively) with SMs' protective buffering. Repeated measures ANOVA of marital satisfaction and distress revealed that SMs surprisingly reported significantly higher marital satisfaction during deployment, relative to both pre- and post-deployment. SMs also had significantly lower distress post-deployment, as compared to pre-deployment and during deployment. On the other hand, there were no significant differences in partners' distress or marital satisfaction across the deployment cycle. To assess how distress and marital satisfaction varied based on SM protective buffering, multilevel models were run with time nested within individuals, and individuals nested within couples. Time variables were entered at Level 1, Role (SM or partner) at Level 2, and, given that protective buffering was only assessed in SMs but thought to affect both SMs and partners, buffering by SMs was

entered at Level 3. Additionally, in order to account for the larger clinical trial from which the participants were selected, a group variable indicating whether or not the couple attended the marriage intervention was entered at level 3. Results indicate that SMs' protective buffering was significantly and negatively associated with partners' distress during deployment, in line with SMs' intent. On the other hand, the relationship between protective buffering and SMs' own distress was positive and significant both during and after deployment. Protective buffering was not significantly associated with partners' marital satisfaction, but was significantly and negatively associated with SMs' post-deployment marital satisfaction. Overall, protective buffering may have short term benefits for partner. However, the psychological and relationship distress for SMs suggest that protective buffering may be a detrimental strategy for deployed SMs.

The second manuscript investigates protective buffering by non-deployed partners. Partners have consistently described feeling a responsibility not to burden or distract deployed SMs, fearing that family-related stress or conflict might result in a deployed SM being distracted during dangerous situations. Thus, I assessed the relationship between the level of protective buffering reported by the partner and the degree to which SMs reported that family stresses interfered with work functioning (i.e., family-to-work spillover) during deployment. Contrary to hypothesis, the correlation between partner protective buffering and SMs' report of spillover was small and not significant.

Subsequently, I explored the association of partners' protective buffering with both partners' and SMs' psychological distress and marital satisfaction, via hierarchical regressions (for the deployment time period only) and multigroup, cross-lagged

autoregressive models (for all three time points). In both types of analyses, higher protective buffering by partners was related to higher partner distress and lower SM marital satisfaction during deployment. Contrary to hypotheses, these effects did not continue post-deployment. In sum, protective buffering was not associated with lower spillover in SMs, but was associated with higher distress in partners and lower satisfaction in SMs during deployment. Notably, the significant relationships of protective buffering with partner distress and SM marital satisfaction were cross-sectional. Thus, protective buffering may be causing the negative outcomes, or partners who are distressed or sense lower satisfaction in their deployed partner may be more likely to buffer.

CHAPTER ONE

Introduction

Over 2 million service members (SMs) have deployed since 9/11, with ongoing troop presence in Iraq and Afghanistan (O'Connor, 2017; Tan, 2009). Given the current military conflicts, as well as the overall geopolitical climate, it is likely that regular deployments will continue for SMs. For SMs and their families, deployments are one of the biggest stressors that they will face (Dimiceli, Steinhardt, & Smith, 2009; McNulty, 2005; Schok, Kleber, Elands, & Weerts, 2008). Thus, better understanding the challenges couples face during deployment is critical for assisting military families to navigate deployment stresses.

One of the most pressing concerns for non-deployed partners is the safety of the deployed SM (Faber, Willerton, Clymer, MacDermid, & Weiss, 2008; Wilson & Murray, 2016). Partners describe regularly monitoring the news and talking with other military spouses in order to find out information about the safety of SMs (Faber et al., 2008; Schumm, Bell & Knott, 2001). Additionally, partners are often reluctant to be far from their phones in order to be available at all times for a potential call from their deployed partner (Lapp et al., 2010). When partners do not hear from their deployed SM, they often experience significant worry and rumination about the possibility of the SM being hurt or killed (Faber et al., 2008; Wilson & Murray, 2016).

Non-deployed partners have described that, in response to their worries about SMs' safety, SMs engage in *protective buffering*, or intentionally withholding information or concerns for the purpose of protecting the other partner from distress (Joseph & Afifi, 2010). Specifically, partners identified that SMs minimize information about potential dangers they may be facing or situations where they were at risk (Rossetto, 2012). SMs also report that they sometimes avoid such topics of conversation as potential danger that they are in, their mental health, and death and injuries to fellow SMs that occur during the deployment (Knobloch, Theiss, & Wehrman, 2015). Despite these cursory findings, no studies have yet systematically assessed protective buffering by SMs.

The small amount of research on protective buffering in the context of military deployments has instead centered on non-deployed partners withholding or minimizing problems at home to a deployed SM. Partners describe frequently engaging in protective buffering as an attempt to reduce the distress of SMs (Cafferky, 2014; Wilson & Murray, 2016). However, studies have found mixed efficacy of the strategy (Carter et al., 2015; Cigrang et al., 2013), while also reporting negative effects such as higher emotional distress and worse physical health for the partners engaging in buffering (Joseph & Afifi, 2010). These findings suggest that protective buffering in partners may be a well-intentioned but maladaptive strategy for supporting deployed SMs. As yet, however, the extent to which SMs are engaging in a similar strategy and, if so, what the effects of SM's buffering are, remain unknown. The current study addresses this gap by systematically assessing protective buffering by SMs during a deployment.

The first aim of the study was to examine the frequency of protective buffering by SMs during a deployment, so as to establish if SMs are actually utilizing the strategy. The second aim was to provide a preliminary exploration of pre-deployment and deployment characteristics that may be associated with SMs engaging in protective buffering. In a study of partners of recently deployed SMs, Cafferky (2014) found that partners were more likely to buffer when they felt that they were unable to adequately handle stressors themselves or believed that SMs were distressed or at risk. Also, in more general research with civilian couples, there is a consistent strong, positive relationship between marital satisfaction and overall levels of self-disclosure (Finkenauer, Engels, Branje, & Meeus, 2004; Laurenceau, Barrett, & Rovine, 2005; Rosenfeld & Bowen, 1991). Thus, I hypothesized that greater levels of protective buffering by SMs during deployment would be related to pre-deployment reports from both SMs and partners of higher psychological distress, lower ability to cope, lower marital satisfaction, and higher conflictual communication patterns (hypothesis 1).

Furthermore, deployments offer couples unique stressors and challenges (for review, Carter & Renshaw, 2016) that may influence protective buffering by SMs. Partners have qualitatively described engaging in protective buffering in order to avoid conflict during the limited time they are able to speak with their partner (Merolla, 2010). Thus, it was hypothesized that protective buffering by SMs would be related to less time conversing with a partner while deployed (hypothesis 2). Both SMs and partners have also reported that SMs frequently avoid revealing information about combat and dangerous situations that they faced (for review, see Greene, Buckman, Dandeker, &

Greenberg, 2010). Because higher combat exposure may give SMs more information to withhold, I also hypothesized a positive association between combat exposure and degree of protective buffering in SMs (hypothesis 3). Additionally, MacDermid and colleagues (2005) noted that SMs described difficulties communicating with their partner due to a number of external factors (e.g., lack of privacy when talking in a room with many other SMs, poor functioning of phone/internet lines, difficulties scheduling time to talk). As SMs may be more likely to avoid potentially distressing conversations when faced with these external factors, it was hypothesized that protective buffering by SMs would be positively related to perceptions that external factors were limiting their communication (hypothesis 4).

The final aim of this study was to evaluate how SM protective buffering related to psychological distress and marital satisfaction in both SMs and partners during and after deployments. Literature on protective buffering in non-deployed partners has consistently reported buffering as an attempt to reduce or avoid distress for a deployed SM (e.g., Joseph & Afifi, 2010). However, studies in civilian samples have typically found that, when a partner engages in protective buffering with an ill partner (e.g., facing cancer or a serious medical procedure), both partners actually endorse poorer mental health and lower relationship satisfaction (Coyne & Smith, 1994; Langer, Brown, & Syrjala, 2009; Suls, Green, Rose, Lounsbury, & Gorden, 1997). Additionally, protective buffering by non-deployed partners while their spouse is deployed has been associated with higher rates of negative mental and physical health symptoms in those partners (Joseph & Afifi, 2010). Thus, while the intent of protective buffering is to reduce a partner's distress, I

hypothesized that higher levels of protective buffering by SMs during a deployment would be related to higher individual distress and lower marital satisfaction in both SMs and partners during deployment (hypothesis 5a) and that this higher distress and lower satisfaction would continue post-deployment (hypothesis 5b).

Methods

Participants and Procedures

Data were drawn from a large, longitudinal marriage education clinical trial. A total of 662 Army couples across two military installations were randomly assigned to either participate in the education program or act as a control. Please see Stanley and colleagues (2014) for a detailed description of recruitment and procedures. Eligible couples were (1) married, (2) at least 18 years old, (3) fluent in English, and (4) had one or both members as active-duty Army SMs. Follow-up assessment occurred every 6 months to 1 year. During the eighth and ninth follow-up time points (from 2011 to 2012, 5-6 years after the original intervention), couples in which the SM was deployed were given a separate set of deployment-specific measures. Of the 56 couples who received these measures, 2 gave questionable information. In the first, the partners gave significantly different deployment dates from one another and across time points, and in the second, both partners in the couple were deployed. After excluding these two couples, the final sample was comprised of 54 male service member deployed in support of OIF/OEF/OND and their female, non-deployed partners. Assessments that immediately preceded and followed each SMs' deployment time point were utilized for pre- and post-deployment data respectively. For three SMs that were deployed during both the 8th and

9th post-intervention assessments, the assessment closest to the midpoint of their deployment was used for the deployment time period. The time points before and after the 8th and 9th post-intervention assessments were then utilized for pre- and post-deployment data.

At the time of the deployment assessment, SMs were an average of 34.22 years old ($SD = 5.87$), non-deployed partners were an average of 33.31 years old ($SD = 5.73$), and they had been married for a mean of 9.28 years ($SD = 4.66$). The majority of participants identified as White (61% of deployed partners; 66% of non-deployed partners). However, a substantial number of participants identified as other racial/ethnic groups, including Hispanic (18% of deployed partners; 16% of non-deployed partners), African-American (11% of deployed partners; 7% of non-deployed partners), Asian (2% of deployed partners), Hawaiian or Pacific Islander (4% of deployed and non-deployed partners), Native American (4% of non-deployed partners), and mixed (5% of deployed partners; 4% of non-deployed partners). SMs reported that at the time of deployment, 2% were Specialists, 45% were Jr. NCOs, 20% were Sr. NCOs, 27% were Company Grade Officers, 6% were Field Grade Officers, and 6% did not report their rank. SMs served for an average of 13.49 years in military ($SD = 6.29$). Independent-sample t -tests and Mann-Whitney U tests for categorical data showed no significant differences in the demographics of those who had or had not been assigned to the marriage education group.

Measures

Protective Buffering. During deployment, SMs only completed a 5-item scale adapted from the protective Buffering subscale of the Berlin Social Support Scales (BSSS; Schwarzer & Schulz, 2013). Four items from the BSSS were retained with the following changes: (1) grammatical changes to adapt to the sample (e.g., updating questions to present tense), (2) altering two double-barreled items (i.e., "I pretended to be very strong, although I did not feel that way", "I did not let him/her notice how bad and depressed I really felt"), (3) adding instructions to the measure specifying that the questions were in relation to communication during deployments, and (4) adding a question stem ("To protect my partner from stress and worry, I...") to assess protective buffering, rather than withholding information due to a different reason, such as operational security. Additionally, one question was added about trying to keep communication positive drawn from a common theme within qualitative literature. Thus, the measure included the following five items, answered on a 1 (*never*) to 7 (*always*) Likert scale: (1) "*keep bad news from my partner,*" (2) "*avoid mentioning anything that could upset my partner,*" (3) "*put on a strong face,*" (4) "*do not let my partner know how I really feel,*" and (5) "*try to keep conversation topics with my partner positive.*" Overall, the scale had good internal consistency ($\alpha = .84$).

Distress. At pre-deployment, deployment, and post-deployment, both SMs and partners completed selected items from the Mood and Anxiety Symptom Questionnaire (MASQ; Watson & Clark, 1991). A total of 12 items, including how much they felt hopeless, discouraged, tense or "high strung", or depressed over the last week, were selected based upon recommendations by Watson and Clark (1991) and Keogh and Reidy

(2000), who independently found that these items loaded strongly together to create a general distress scale. Participants responded from 1 (*Not at all*) to 5 (*All of the time*). The measure showed excellent internal consistency across all time points for both SMs and partners ($\alpha > .93$).

Marital Satisfaction. At pre-deployment, deployment, and post-deployment, both SMs and partners completed the 3-item Kansas Marital Satisfaction Scale (KMS; Schumm et al., 1986). Participants responded using a 1 (*extremely dissatisfied*) to 7 (*extremely satisfied*) Likert scale for the following items: “*How satisfied are you with your marriage?*”, “*How satisfied are you with your partner as a spouse?*”, and “*How satisfied are you with your relationship with your spouse?*” The measure has demonstrated strong and consistent reliability and validity (e.g. Schumm et al., 1986). The current sample also showed good internal consistency for both SMs and partners, across all time points ($\alpha > .89$).

Combat Exposure. During deployment, SMs completed the 7-item Combat Exposure Scale (CES; Keane, T., Fairbank, J., Caddell, J., Zimering, R., Taylor, K., & Mora, C., 1989). Items use a 5-point Likert scale or 4-point frequency scale, with total scores ranging from 0 to 40. The psychometrically-validated measure demonstrated acceptable internal consistency in the current sample ($\alpha = .88$). Overall, SMs reported fairly low levels of combat ($M = 8.80$; $SD = 9.00$).

External limitations of communication. During deployment, SMs only completed a single face-valid item: “*Did external circumstances limit how often you and your spouse were able to communicate during this deployment?*” Participants responded

on a 1 (*No, never*) to 7 (*Yes, always*) Likert-scale. SMs indicated frequent external limitations on communication ($M = 5.09$, $SD = 1.51$).

Amount of time communicating. During deployment, partners completed a single face-valid item: "*During this deployment, how many hours per week do you spend conversing with your spouse (including phone calls, Skype or other video chat, instant messaging, text messaging, etc.), on average?*" Participants responded on a 0 (0) to 10 (10 or more) scale. Partners indicated an average of 4.65 hours of communication per week ($SD = 3.31$).

Coping. At pre-deployment, SMs and partners both completed three face-valid items that assessed the perception of general coping: "*I am coping very well with stress*", "*My spouse is coping very well with stress*", and "*My spouse and I are coping very well with our stress together.*" Participants responded to the items on a Likert scale from 1 (*Strongly Disagree*) to 7 (*Strongly agree*), and the average of their responses was used. The scale demonstrated acceptable internal consistency for both SMs ($\alpha = .86$) and partners ($\alpha = .87$). Overall, both SMs ($M = 5.20$, $SD = 1.41$) and partners ($M = 5.06$, $SD = 1.36$) reported high levels of coping pre-deployment.

Conflictual Communication. At pre-deployment, both SMs and partners completed five items from the Relationship Dynamics Scale (RDS; Stanley & Markman, 1997) that assessed patterns of conflictual communication between romantic partners. Example items include "*Little arguments escalate into ugly fights with accusations, criticisms, name calling, or bringing up past hurts*" and "*My spouse criticizes or belittles my opinions, feelings, or desires.*" Responses to each item were on a 1 (*never or almost*

never) to 3 (*frequently*) Likert scale, and an average of responses was used as a total score. Various forms of the measure have demonstrated excellent reliability and validity (e.g., Johnson, Cohen, Smailes, Kasen, & Brook, 2002; Stanley et al., 2005; Stanley, Markman, & Whitton, 2002), and the scale demonstrated acceptable internal consistency in the current study for both SMs ($\alpha = .87$) and partners ($\alpha = .81$). Overall, both SMs ($M = 1.81$, $SD = 0.49$) and partners ($M = 1.72$, $SD = 0.57$) reported minimal levels of conflict pre-deployment.

Data Analyses

To first examine the frequency of protective buffering by SMs, standard descriptive analyses were run. Subsequently, to explore pre-existing and logistical factors that may be associated with SM protective buffering during a deployment (hypotheses 1-4), bivariate correlations were run between SM protective buffering and measures of pre-deployment individual functioning of both SM and partners (individual distress, coping), pre-deployment relationship functioning (marital satisfaction, conflictual communication), and logistical factors during the deployment (SM combat exposure, average hours communicating per week, external factors limiting communication)¹. Despite the large number of tests, I retained an alpha of .05, given the small sample and preliminary, exploratory nature of the study.

I used 3-level, multilevel models to examine the impact of protective buffering on distress. Per the recommendations of Atkins (2005), time was nested within individuals,

¹ Variables that were significantly related to protective buffering were assessed in hierarchical regressions while controlling for group (i.e., whether or not they were assigned to the marital education program). There were no changes in the associations; thus, only the original correlations are reported.

who were nested within couples. Time was dummy coded into three variables representing whether the response was from pre-deployment, during deployment, or post-deployment. For instance, a Pre-Deployment variable was coded 1 for pre-deployment responses and 0 for deployment and post-deployment responses. Deployment and Post-Deployment variables were created utilizing the same method. By entering any two of these three time variables (uncentered) as simultaneous level-1 predictors, the resulting intercept reflected distress at the time point that was coded 0 in both variables. For instance, when the Pre-deployment and Post-deployment time variables were entered as level-1 predictors, the resulting effects on the intercept reflected associations between the predictor variables and distress specifically during deployment. Additionally, a significant effect of either or both time variables indicated that there were significant differences in levels of distress across time points.

Role was dummy coded in two complementary dichotomous variables: one with partner coded as 0 and SM coded 1, and the other with SM coded as 0 and partner coded as 1. Only one variable was entered at a time. Entering either one of these role variables at level 2 assessed whether distress differed between partners and SMs. By including the role variable uncentered, the resulting associations were specific to whichever role was coded as 0. For instance, when the role variable with partner coded as 0 was entered, the resulting associations involving Role were specific to partners.

As protective buffering was only assessed in SMs but thought to affect both SMs and partners, it was entered as a couple-level factor at level 3. Entering Protective Buffering as a Level-3 predictor of all coefficients assessed whether protective buffering

exerted a main effect on distress and whether it interacted with time and role in predicting distress, while accounting for all other factors in the model. For instance, the effect of Protective Buffering on the intercept addressed the association of protective buffering with distress, and the effect of Protective Buffering on Role addressed whether the association of protective buffering with distress was significantly different for SMs and partners. Finally, given that the sample was drawn from a larger clinical trial, group was entered as a couple-level factor at level 3. Entering Group as a Level-3 predictor on the intercept allowed us to account for any potential impact of participation in the marriage education program. Protective buffering and group were grand mean centered. Random effects were included for level-3 formulas associated with main effects at level 2.

Using the above procedures resulted in a total of four models: (1) one focused on partners' distress during deployment (using Pre-Deployment and Post-Deployment as the two time variables, and using the role variable in which partner was coded 0), (2) one focused on SMs' distress during deployment (using Pre-Deployment and Post-Deployment as the two time variables, and using the role variable in which SM was coded 0), (3) partners' distress post-deployment (using Pre-Deployment and Deployment as the two time variables, and using the role variable in which partner was coded 0), and (4) SMs' distress post-deployment (using Pre-Deployment and Deployment as the two time variables, and using the role variable in which SM was coded 0). As an example, the following model was tested using HLM 7.0 (Raudenbush, Bryk, Fai, Congdon, & Du Toit, 2011) to assess the association of protective buffering on distress during deployment for partners:

Level 1 Model

$$\text{Distress}_{ij} = \pi_{0ij} + \pi_{1ij} * (\text{Pre-Deployment}_{ij}) + \pi_{2ij} * (\text{Post-Deployment}_{ij}) + e_{ij}$$

Level 2 Model

$$\pi_{0ij} = \beta_{00j} + \beta_{01j} * (\text{Role-Partner}_{ij}) + r_{0ij}$$

$$\pi_{1ij} = \beta_{10j} + \beta_{11j} * (\text{Role-Partner}_{ij})$$

$$\pi_{2ij} = \beta_{20j} + \beta_{21j} * (\text{Role-Partner}_{ij})$$

Level 3 Model

$$\beta_{00j} = \gamma_{000} + \gamma_{001}(\text{Group}_j) + \gamma_{002}(\text{Protective Buffering}_j) + u_{00j}$$

$$\beta_{01j} = \gamma_{010} + \gamma_{011}(\text{Protective Buffering}_j)$$

$$\beta_{10j} = \gamma_{100} + \gamma_{101}(\text{Protective Buffering}_j) + u_{10j}$$

$$\beta_{11j} = \gamma_{110} + \gamma_{111}(\text{Protective Buffering}_j)$$

$$\beta_{20j} = \gamma_{200} + \gamma_{201}(\text{Protective Buffering}_j) + u_{20j}$$

$$\beta_{21j} = \gamma_{210} + \gamma_{211}(\text{Protective Buffering}_j)$$

Finally, the associations of protective buffering with marital satisfaction were assessed using the same procedures as described above, but with marital satisfaction as the outcome variable.

Results

Protective buffering was highly prevalent in the sample. The range of answers included both extremes, with a mean of 4.51 ($SD = 1.29$) and a mode of 4 (*sometimes*). Overall, only 2% of SMs reported never engaging in protective buffering. Next, bivariate correlations were run (see Table 1) between protective buffering, pre-deployment individual and relationship functioning, and logistical factors during the deployment. Out

of 11 variables, protective buffering by SMs was significantly associated only with partners' pre-deployment distress, with a medium-sized, negative association.

Table 1
Correlations with Protective Buffering by SM During a Military Deployment

Pre-Deployment			
Individual Functioning		Relationship Functioning	
Individual Distress (SM)	.10	Marital Satisfaction (SM)	-.18
Individual Distress (Partner)	-.42*	Marital Satisfaction (partner)	.09
Coping Skills (SM)	.08	Conflictual Communication (SM)	.20
Coping Skills (Partner)	.00	Conflictual Communication (partner)	.05
During Deployment			
Logistical Factors			
External Factors Limiting Communication (SM)	.22	SM Combat Exposures (SM)	.20
Amount of Time Communicating (Partner)	-.26		

* $p < .05$.

To provide a picture of the couples over time, repeated measures ANOVAs of distress and marital satisfaction for both SMs and partners across all time points were conducted (see Table 2). SMs' distress was significantly lower at post-deployment than before or during deployment, with no significant differences between pre-deployment and during deployment distress. SMs' marital satisfaction during deployment was significantly higher than pre- or post-deployment. Partners' distress and marital satisfaction were consistent across time in a repeated-measure ANOVA.

Table 2
Means and Standard Deviations Across Time

	Pre-Deployment	Deployment	Post-Deployment
Individual Distress (Partner)	1.97 (1.04) ^a	2.03 (0.90) ^a	1.74 (0.78) ^a
Individual Distress (SM)	1.88 (0.97) ^a	2.07 (1.07) ^a	1.60 (0.86) ^b
Marital Satisfaction (Partner)	5.48 (1.68) ^a	5.91 (1.35) ^a	5.55 (1.07) ^a
Marital Satisfaction (SM)	5.58 (1.53) ^a	6.08 (1.41) ^b	5.52 (1.35) ^a

Note. Different superscript letters indicate significant differences in means across time points. SM = service member.

In addition, correlations of these variables during and after deployment with protective buffering were run (see Table 3). Only a single significant correlation was detected, that between buffering and SMs' distress during deployment.

Table 3
Correlations of Protective Buffering with Distress and Satisfaction Across Time

	Deployment	Post-Deployment
Individual Distress (Partner)	-.29	-.26
Individual Distress (Service Member)	.31*	.26
Marital Satisfaction (Partner)	-.14	-.18
Marital Satisfaction (Service Members)	-.26	-.27

* $p < .05$.

The results of the multilevel models that assessed the relationship between protective buffering and distress during deployment are shown in Table 4. In line with the repeated measures ANOVAs, pre-deployment distress did not significantly differ from distress during deployment for either SMs or partners. SM post-deployment distress was significantly lower than SM distress during deployment. One cross-level interaction was significant, namely, the interaction of role and protective buffering. This significant interaction indicates that partner and SM associations between protective buffering and distress significantly differed. Inspection of the Level-3 effect of protective buffering on the intercept in the separate partner and SM models reveals the nature of this difference. Specifically, this association was significant and negative for partners, but significant and positive for SMs.

Table 4
Multilevel Model of Psychological Distress During Deployment

	Partner			SM		
	Coefficient	SE	t-ratio	Coefficient	SE	t-ratio
Intercepts						
Intercept	2.03	0.13	15.20***	2.01	0.13	15.12***
Pre-Deployment (L1)	-0.07	0.13	-0.52	-0.06	0.13	-0.47
Post-Deployment (L1)	-0.17	0.11	-1.57	-0.45	0.11	-4.22***
Role (L2)	-0.01	0.16	-0.07	0.01	0.16	0.07
Protective Buffering (L3)	-0.22	0.11	-2.06*	0.29	0.11	2.69*
Group (L3)	0.43	0.18	2.40*	0.43	0.18	2.40*
Cross-Level Interactions						
Buffering (L3) & Pre-Deployment (L1)	-0.03	0.11	-0.27	-0.15	0.11	-1.37
Buffering (L3) & Post-Deployment (L1)	0.12	0.09	1.37	-0.03	0.09	-0.31
Buffering (L3) & Role (L2)	0.50	0.13	4.02***	-0.50	0.13	-4.02***
Role (L2) & Pre-Deployment (L1)	0.01	0.14	0.05	-0.01	0.14	-0.05
Role (L2) & Post-Deployment (L1)	-0.28	0.14	-2.03	0.28	0.14	2.03
Buffering (L3) & Role (L2) & Pre- Deployment (L1)	-0.12	0.12	-1.01	0.12	0.12	1.01
Buffering (L3) &	-0.16	0.13	-1.28	0.16	0.13	1.28

Role (L2) & Post-
Deployment (L1)

* $p < .05$. ** $p < .01$. *** $p < .001$.

The results of the multilevel models that assessed the relationship between protective buffering and distress during post-deployment are shown in Table 5. For SMs, post-deployment distress was significantly lower than both pre-deployment and during deployment distress. Once again, the cross-level interaction of protective buffering with role was significant, indicating the association between buffering and distress differed between partners and SMs. Although the direction of associations paralleled those from the model exploring distress during deployment, the association was significantly for SMs only (with a positive association), not for partners.

Table 5
Multilevel Model of Psychological Distress Post-Deployment

	Partner			SM		
	Coefficient	SE	t-ratio	Coefficient	SE	t-ratio
Intercepts						
Intercept	1.86	0.12	15.09***	1.57	0.12	12.71***
Pre-Deployment (L1)	0.10	0.12	0.82	0.39	0.12	3.25**
Deployment (L1)	0.17	0.11	1.57	0.45	0.11	4.22***
Role (L2)	-0.29	0.17	-1.76	0.29	0.17	1.76
Protective Buffering (L3)	-0.09	0.11	-0.83	0.26	0.11	2.37*

Group (L3)	0.43	0.18	2.40*	0.43	0.18	2.40*
Cross-Level Interactions						
Buffering (L3) & Pre-Deployment (L1)	-0.16	0.11	-1.52	-0.12	0.10	-1.17
Buffering (L3) & Deployment (L1)	-0.13	0.09	-1.37	0.03	0.09	0.31
Buffering (L3) & Role (L2)	0.34	0.14	2.39*	-0.34	0.14	-2.39*
Role (L2) & Pre-Deployment (L1)	0.29	0.15	1.98	-0.29	0.15	-1.98
Role (L2) & Deployment (L1)	0.28	0.14	2.03	-0.28	0.14	-2.03
Buffering (L3) & Role (L2) & Pre- Deployment (L1)	0.04	0.13	0.29	-0.04	0.13	-0.29
Buffering (L3) & Role (L2) & Deployment (L1)	0.16	0.12	1.28	-0.16	0.12	-1.28

* $p < .05$. ** $p < .01$. *** $p < .001$.

The results of the multilevel models that assessed the association between protective buffering and marital satisfaction during deployment are shown in Table 6. For SMs, marital satisfaction was significantly higher during deployment than pre- or post-

deployment, consistent with the repeated measure ANOVAs. There were no other significant main or cross-level effects.

Table 6
Multilevel Model of Marital Satisfaction During Deployment

	Partner			SM		
	Coefficient	SE	t-ratio	Coefficient	SE	t-ratio
Intercepts						
Intercept	6.01	0.20	29.59***	6.12	0.20	30.16***
Pre-Deployment (L1)	-0.36	0.22	-1.65	-0.67	0.22	-3.13**
Post-Deployment (L1)	-0.30	0.21	-1.42	-0.68	0.21	-3.18**
Role (L2)	0.12	0.24	0.49	-0.012	0.24	0.49
Protective Buffering (L3)	-0.16	0.16	-0.99	-0.28	0.16	-1.75
Group (L3)	-0.07	0.27	-0.27	-0.07	0.27	-0.27
Cross-Level Interactions						
Buffering (L3) & Pre-Deployment (L1)	0.24	0.18	1.34	0.08	0.18	0.43
Buffering (L3) & Post-Deployment (L1)	0.27	0.19	1.44	-0.14	0.20	-0.70
Buffering (L3) & Role (L2)	-0.12	0.19	-0.65	0.12	0.19	0.65
Role (L2) & Pre-Deployment (L1)	-0.32	0.28	-1.13	0.32	0.28	1.13
Role (L2) & Post-Deployment (L1)	-0.38	0.27	-1.38	0.38	0.27	1.38

Post-Deployment (L1)						
Buffering (L3) & Role (L2) & Pre- Deployment (L1)	-0.17	0.23	-0.71	0.17	0.23	0.71
Buffering (L3) & Role (L2) & Post- Deployment (L1)	-0.41	0.25	-1.63	0.41	0.25	1.63

* $p < .05$. ** $p < .01$. *** $p < .001$.

The results of the multilevel models that assessed the association between protective buffering and marital satisfaction after deployment are shown in Table 7. Again, SMs' post-deployment marital satisfaction was significantly lower than marital satisfaction during deployment. Additionally, the cross-level interaction of protective buffering with role was significant, indicating significant differences in the association between buffering and distress for SMs and partners. For partners, the association of protective buffering with partner distress post-deployment was nonsignificant and positive, whereas the association of protective buffering with SM distress post-deployment was significant and negative.

Table 7
Multilevel Model of Marital Satisfaction Post-Deployment

	Partner	SM
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	Coefficient	SE	t-ratio	Coefficient	SE	t-ratio
Intercepts						
Intercept	5.71	0.19	29.37***	5.45	0.20	27.78***
Pre-Deployment (L1)	-0.06	0.23	-0.25	0.01	0.23	0.03
Deployment (L1)	0.30	0.21	1.42	0.68	0.21	3.18**
Role (L2)	-0.26	0.26	-1.02	0.26	0.26	1.02
Protective Buffering (L3)	0.11	0.18	0.62	-0.42	0.19	-2.24*
Group (L3)	-0.07	0.27	-0.27	-0.07	0.27	-0.27
Cross-Level Interactions						
Buffering (L3) & Pre-Deployment (L1)	-0.03	0.20	-0.13	0.22	0.21	1.03
Buffering (L3) & Deployment (L1)	-0.27	0.19	-1.44	0.14	0.20	0.70
Buffering (L3) & Role (L2)	-0.53	0.24	-2.21*	0.53	0.24	2.21*
Role (L2) & Pre- Deployment (L1)	0.06	0.29	0.22	-0.06	0.29	-0.22
Role (L2) & Deployment (L1)	0.38	0.27	1.38	-0.38	0.27	-1.38
Buffering (L3) & Role (L2) & Pre- Deployment (L1)	0.24	0.26	0.93	-0.24	0.26	-0.93
Buffering (L3) & Role (L2) &	0.41	0.25	1.63	-0.41	0.25	-1.63

Discussion

The current study is the first to systematically explore protective buffering, or intentional withholding of upsetting information by SMs during deployments. Almost the entire sample of deployed SMs reported engaging in at least some protective buffering, on par with or above reports of partners engaging in protective buffering during deployments (e.g., Carter et al., 2015; Joseph & Afifi, 2010). Despite the primary focus on protective buffering by partners in the literature (for review, see Carter & Renshaw, 2016), the high frequency of buffering by SMs found in the current sample emphasize that protective buffering is occurring in both members of the couple, and that similar attention should be paid to the effects of buffering for both partners.

Given that no research to date has directly assessed the motivation for SMs to engage in protective buffering, exploratory analyses assessed several potential correlates. Despite the multitude of factors that were examined, partners' pre-deployment distress was the only factor to be significantly related to protective buffering during deployment. Contrary to expectations, this association was *negative*, indicating that higher pre-deployment distress in partners was related to *lower* protective buffering. Although surprising, the finding may speak to the importance of reciprocity in the disclosure of personal or stressful information (Jourard, 1971). In both experimental and self-report studies, having both partners disclose information to one another is related to liking,

intimacy, and trust between individuals (for review, see Dindia, 2000). On the other hand, people may be less likely to divulge information, if they are the only one doing so (Dindia, 2000). Thus, SMs may be more willing to reciprocally disclose information during a deployment when their partners experienced and disclosed their own pre-deployment stressors.

Notably, there were several factors that were not significantly associated with buffering by SMs, but that did have small to medium-sized effects. Specifically, SM reports of pre-deployment marital satisfaction and conflictual communication, and all deployment logistical factors (amount of time communicating with partner, external factors limiting communication, and combat exposure) had effect sizes in this range, all of which were in directions consistent with hypotheses. Thus, while the current findings did not show significant associations, due to the small sample, these variables cannot be ruled out as possible correlates of SM buffering. Future studies with more robust sample sizes would benefit from further exploration into deployment factors that may influence protective buffering by SMs.

Although civilian literature has suggested that protective buffering has negative impacts on distress and marriage satisfaction of both partners (e.g., Coyne & Smith, 1994; Langer et al., 2009; Suls et al., 1997), findings from the current study were not fully consistent with this notion. Instead, protective buffering by SMs was actually related to less partner distress during deployment, consistent with the intent of SMs trying to reduce partner distress by shielding them from potentially distressing information. Notably, this association was limited to partners' distress during the deployment and did

not continue post-deployment. Additionally, protective buffering was unrelated to marital satisfaction for partners both during and after deployment.

This divergence from civilian research may be due in part the geographic separation between partners. The majority of studies which have assessed protective buffering have done so in couples in which partners are co-located, and one partner is withholding information related to medical issues. Military couples, on the other hand, are physically separated. Non-deployed partners often receive little outside information regarding their SM's experience (Villagran, Canzona, & Ledford, 2013) and must rely only on what SMs share. When SMs withhold information during a deployment, non-deployed partners may have less awareness as to the severity of what is actually occurring, such as dangerous or stressful situations for SMs. Additionally, military partners may be more accustomed to secrecy than civilian partners. Both partners and SMs report that SMs often have to withhold information due to operational security (Carter & Renshaw, 2016; Greene et al., 2010). Military partners may have an understanding and even an expectation that there is information that will not be shared. Therefore, rather than partners feeling distressed or dissatisfied when a romantic partner withholds information, partners may simply have limited reactions to SMs offering little information as this may be the norm. At the same time, as previously discussed, the analyses were likely underpowered. Thus, while the significant relationship between protective buffering and partner distress during deployment offers the first preliminary evidence as to the efficacy of buffering by SMs, firm conclusions cannot be made until replicated by additional studies.

In contrast to the results for partners, the association of protective buffering with distress in SMs were in line with hypotheses and findings from the growing body of civilian literature and studies of protective buffering by partners. Such studies have consistently found that those who engage in buffering have higher emotional distress themselves, both in the short and long term (Coyne & Smith, 1994; Langer et al., 2009; Suls et al., 1997), which was the case in our sample of SMs. Thus, engaging in protective buffering may disallow SMs the ability to reduce distress through discussing stressors with their partner, maintaining or increasing distress (e.g., Lepore, Fernandez-Berrocal, Ragan & Ramos, 2004; Pennebaker, 1993).

Surprisingly, protective buffering was significantly associated with SM marital satisfaction post-deployment but not during deployment, indicating that the impacts of protective buffering on a relationship may be delayed. During deployments, SMs have described the importance of focusing on the mission, which may include withholding information from those they care about (e.g., Baptist et al., 2011; MacDermid et al., 2005). Thus, while it may be deeply distressing to not share upsetting current events with a romantic partner, protective buffering may be seen as a byproduct of the needs of the mission, insulating the marriage from negative interpretations during the deployment. However, withholding deployment experiences may create difficulties for family reintegration once SMs have returned home. Previous studies have found that a lack of disclosure, particularly of combat experiences, may reduce intimacy between partners, opportunities for support, and a misunderstanding of any psychological difficulties SMs may experience (e.g., Balderrama-Durbin et al., 2013; Dekel, Goldblatt, Kiedar,

Solomon, & Polliack, 2005; Hinojosa, Hinojosa, & Högnäs, 2012; Renshaw, Allen, Carter, Markman, & Stanley, 2014). Military couples struggling with relationship difficulties following a deployment may benefit from couples therapy and communication skills that may foster healthy disclosure once reunited (Sayers, 2011).

It is important to consider the above findings within the context of several limitations. First, the current sample was drawn from a larger clinical trial. Controlling for whether or not couples participated in the marriage education revealed group differences in distress. Although these differences were statistically controlled for, the findings indicate that the current sample of military couples may not generalize to a broader military population. Additionally, as previously noted, the small sample size likely offered insufficient power for the complex models utilized. The findings (both significant and nonsignificant) are in need of replication. Additionally, the sample was homogenous, in that all couples were composed of male Army soldiers and their female spouses. Given the strong gender roles often found within military culture (Dunivin, 1994), the current findings may not generalize to military couples that deviate from these norms, such as couples with female service members, dual-military, or same-sex couples. Additionally, the couples were fairly stable in that they had been married, on average, for nearly 10 years and part of the Army for over 13 years. Given the high tempo of deployments over the past ten years (Tan, 2009), it is likely that participants for the current study have had to navigate previous deployments as a couple. The current findings may not generalize to newly formed couples or couples experiencing their first deployment. Finally, many of the measures relied on face-valid items that have not been

well-validated in previous studies. Future research would benefit from assessing protective buffering in differing and more diverse samples with more established measures.

Despite these limitations, the current study represents the first to systematically assess protective buffering by service members during a deployment. Collecting data during the actual deployment limited the possibility of retrospective bias, and the pre- and post-deployment data allowed for a unique within-person assessment of several constructs of interest in relation to protective buffering. Nearly the entire sample of SMs reported at least some protective buffering while deployed, with higher levels of buffering being associated with lower distress during deployment for partners, supporting the notion that protective buffering may be effective in minimizing partners' distress in the short term. On the other hand, protective buffering showed negative consequences for SMs both during and after deployment. The limited efficacy coupled with negative consequences for SMs suggests that protective buffering may be a detrimental strategy. Thus, it may be helpful for couples to explicitly discuss what stressful information can and should be shared during the separation (Laser, & Stephens, 2011), in order to minimize the motivation for SMs to protectively buffer. Given the high rates of SMs engaging in protective buffering and a dearth of research regarding the effects, this paper offers the first step in better understanding protective buffering by SMs during a deployment.

CHAPTER TWO

Introduction

Since the beginning of military operations in Iraq and Afghanistan, more than 2 million service members (SMs) have deployed to combat zones, with over a third deploying two or more times (Tan, 2009). For military spouses and partners, deployments represent one of the most stressful situations in their lives (Dimiceli, Steinhardt, & Smith, 2010). Deployments have been related to emotional, psychological, and physical distress in partners (for review see Wilson & Murray, 2016). With frequent deployments likely to continue for SMs (Ryan & Raghavan, 2016; Starr, 2016; Tilghman, 2016), additional research on the experiences of SMs and their romantic partners during and after deployment is essential.

One of the largest stressors for non-deployed partners is the safety of the deployed SM (Faber, Willerton, Clymer, MacDermid, & Weiss, 2008). Partners often report fearing that family-related conflict or stress that occurs during conversations with deployed SMs will result in the SMs being distracted during dangerous situations (for review, see Carter & Renshaw, 2016). Partners' fears that family concerns may distract a deployed SM is consistent with boundary theory, which posits that stress in one domain, like marriage or family, may spillover into another domain, like work (Desrochers & Sargent, 2004). This theory has been supported in civilian studies (e.g., Demerouti, Taris & Bakker, 2007; Ford, Heinen & Langkamer, 2007), and SMs themselves have described

family stress potentially interfering with their job performance and causing distraction (Bray et al., 2009; Cigrang et al., 2013).

Non-deployed partners have reported feeling a responsibility not to burden or distract their deployed partner, which is often affirmed to them by friends, family, and the broader military community (Cafferky, 2014). To minimize the potential for SMs to become distracted by family issues during a deployment, some partners report engaging in *protective buffering*, or intentionally withholding information or concerns in an attempt to protect the other partner (e.g., Joseph & Afifi, 2010). In a recent review of 11 qualitative studies, Wilson and Murray (2016) noted that military partners consistently described minimizing or withholding stressful or problematic information from their deployed spouse. Results from one quantitative study further revealed that protective buffering is most likely to occur when wives perceive risks to the service member's safety (Joseph & Afifi, 2010). None of these studies, however, evaluated whether protective buffering by partners was actually related to lower levels of distraction in SMs.

In a study of more general communication, Cigrang and colleagues (2013) found that greater frequency of communication during deployment was related to lower relationship distress, which was, in turn, actually related to lesser reports of negative impacts on performance of duties (e.g., being distracted while on mission). Similarly, Carter and colleagues (2015) found that more frequent communication during deployment was associated with *less* distraction in SMs. On the other hand, lower marital satisfaction, greater focus on problems during communication, and more conflictual communication were each found to be related to more distraction in deployed soldiers

(Carter et al., 2015). These latter findings do suggest that communication about family problems may have negative ramifications for SMs, but no studies have yet assessed whether or not protective buffering itself actually results in the desired effect of reducing distraction in SMs.

Thus, the primary aim of the current study was to assess whether protective buffering reported by non-deployed partners is associated with family-to-work spillover reported by SMs during deployment. In line with the intent of partners and the limited research reviewed above (e.g., Carter et al., 2015), it was hypothesized that higher protective buffering by partners would be significantly related to lower family-to-work spillover in deployed SMs (hypothesis 1).

Protective buffering by partners may also have effects on SMs outside of occupational functioning. In qualitative studies, SMs reported disliking this type of behavior from their spouses, feeling that the spouse was acting as a "gate-keeper" to important information (MacDermid et al., 2005; Maguire & Sahlstein Parcell, 2015). Similarly, studies with civilian samples have consistently found that, when a partner engages in protective buffering with an ill partner (e.g., facing cancer or a serious medical procedure), both partners report poorer mental health and lower marital satisfaction (Coyne & Smith, 1994; Langer, Brown, & Syrjala, 2009; Suls et al., 1997). Thus, while protective buffering may have beneficial impacts on family-to-work spillover, there may be unintended, negative consequences for SMs' psychological and relationship functioning. Further, the negative consequences of protective buffering may persist once the deployment has ended. A qualitative study of national reservists and their

family members found that restricting the amount or content of communication during deployment was related to struggles with post-deployment communication (Faber et al., 2008). Along these lines, the second aim of the current study was to evaluate the hypothesis that higher levels of protective buffering by partners during a deployment would be related to higher individual distress and lower marital satisfaction during deployment in SMs (hypothesis 2), and that such individual and relationship distress would continue post-deployment (hypothesis 3).

Finally, protective buffering may also have important consequences for the partner withholding the information. Protective buffering has been associated with higher rates of negative mental health symptoms in those who buffer in both military (Joseph & Afifi, 2010) and civilian samples (Coyne & Smith, 1994; Langer et al., 2009; Suls et al., 1997). Partners also describe emotional distress regarding the decision making process of what should and should not be shared with their deployed partner, as well as attempting to independently face the problems they have chosen not to disclose (Cafferky, 2014). These findings suggest that even well-intentioned withholding of information may be associated with negative outcomes in mental and relationship health for the partner who is buffering. Thus, I also examined the hypothesis that higher levels of protective buffering by partners during a deployment would be related to higher individual distress and lower marital satisfaction in partners during deployment (hypothesis 4), and that this distress and dissatisfaction would continue post-deployment (hypothesis 5).

Methods

Participants and Procedures

Data were drawn from a large, randomized clinical trial of a marriage education program for Army couples, in which 662 couples participated from two separate installations. To be eligible for the study, couples had to be (1) currently married, (2) age 18 or older, (3) fluent in English, and (4) have at least one active-duty Army SM in the couple. A detailed description of the recruitment and intervention procedures can be found in Stanley et al. (2014).

During the 8th and 9th post-intervention assessments, which occurred 5 to 6 years after the intervention, couples in which the SM was deployed were given a separate set of deployment-specific measures. The time period of these assessments was between 2011 and 2012, with deployments primarily to Iraq or Afghanistan. Out of the total sample, 56 SMs who were still married were deployed at one of these time points. However, the partners in one couple gave significantly different deployment dates from one another and across time points, and a second couple had both partners deployed. Data from both of these couples were excluded, leaving a final sample of 54 couples comprised of a male service member deployed in support of OIF/OEF and a female, non-deployed partner. For all couples, pre- and post-deployment data were derived from the assessment that immediately preceded and followed each SMs' deployment time point. Of note, three SMs were deployed at both time points, in which case, data from the time point closest to the middle of their deployment were used for the deployment time period, and data from the time points before and after both time points when they were deployed were used for pre- and post-deployment data.

At the time of deployment, SMs were, on average, 34.22 years old ($SD = 5.87$), and non-deployed partners' average age was 33.31 years old ($SD = 5.73$). Couples reported being married for a mean of 9.28 years ($SD = 4.66$). Although a majority of participants identified as White (61% of deployed partners; 66% of non-deployed partners), there were substantial numbers of participants from other racial/ethnic groups: Hispanic (18% of deployed partners; 16% of non-deployed partners), African-American (11% of deployed partners; 7% of non-deployed partners), Asian (2% of deployed partners), Hawaiian or Pacific Islander (4% of deployed and non-deployed partners), Native American (4% of non-deployed partners), or Mixed (5% of deployed partners; 4% of non-deployed partners). Of the deployed SMs, 2% were Specialists, 45% were Jr. NCOs, 20% were Sr. NCOs, 27% were Company Grade Officers, and 6% were Field Grade Officers. The remaining 6% did not report their rank. SMs had on average served 13.49 years in military ($SD = 6.29$).

In independent-sample t -tests, there were no significant differences in age or marriage length across couples who had or had not been assigned to the marriage education group. Similarly, in Mann-Whitney U tests to account for the categorical nature of the data, there were no significant differences in ethnicity or rank dependent on whether participants had been assigned and attended the marriage education program.

Measures

Protective Buffering. During deployment, partners completed a 5-item scale to assess buffering, and a mean of their responses was used as the score. Four items were adapted from the Protective Buffering subscale of the Berlin Social Support Scales

(BSSS; Schwarzer & Schulz, 2013), with the following changes: (1) instructing partners to respond in relation to communication with their spouse during the current deployment, (2) minor grammatical changes (e.g., changing from past to present tense), (3) adding a new question stem ("To protect my partner from stress and worry, I...") to ensure that the activities were related to protective buffering, rather than a separate motivation, and (4) rewording two double-barreled items (i.e., "I pretended to be very strong, although I did not feel that way", "I did not let him/her notice how bad and depressed I really felt"). Finally, an additional question about trying to keep all conversations positive was added, based on that common theme within protective buffering literature. Thus, the measure included the following items: (1) *"keep bad news from my partner,"* (2) *"avoid mentioning anything that could upset my partner,"* (3) *"put on a strong face,"* (4) *"do not let my partner know how I really feel,"* and (5) *"try to keep conversation topics with my partner positive."* Items were asked on a Likert scale ranging from 1 (*never*) to 7 (*always*) and showed good internal consistency ($\alpha = .84$).

Spillover. Due to the unique characteristics of deployments, standard marriage-to-family spillover measures (e.g., Carlson, Kacmar, & Williams, 2000; Netemeyer, McMurrian, & Bole, 1996) were not ideal for assessing spillover in this sample (e.g., items like being late for work or time demands at home were not highly relevant). Thus, during deployment, SMs only completed three face-valid items about how much SMs perceived that family was interfering with work functioning, based on descriptions in the spillover and qualitative protective buffering literature: (1) *"While working, I find myself thinking about things going on at home";* (2) *"While working, I think about conversations*

I had with my spouse”; and (3) “*While working, I find myself thinking about my spouse/family.*” The items were rated from 1 (*strongly disagree*) to 7 (*strongly agree*). SMs were explicitly instructed to rate the questions with regard to their current deployment. Overall, the measure showed high internal consistency ($\alpha = .92$).

Distress. At pre-deployment, deployment, and post-deployment, both SMs and partners completed 12 items from the Mood and Anxiety Symptom Questionnaire (MASQ; Watson & Clark, 1991). The items were selected based upon factor analyses conducted on the MASQ by Watson and Clark (1991) and Keogh and Reidy (2000), which found these 12 items consistently loaded strongly and cleanly on a general distress scale, with minimal cross loading on other scales. Participants were asked on a 1 (*Not at all*) to 5 (*All of the time*) Likert scale if during the past week they had experienced items such as feeling hopeless, discouraged, tense or “high strung”, and depressed. In the current sample, items demonstrated excellent internal consistency for both SMs and partners, across all time points ($\alpha s > .93$).

Marital Satisfaction. At pre-deployment, deployment, and post-deployment, both SMs and partners completed the 3-item Kansas Marital Satisfaction Scale (KMS; Schumm et al., 1986). Participants responded using a 7-point Likert scale (1 = *extremely dissatisfied*, 7 = *extremely satisfied*) and a mean was used for a total score. Items included: “*How satisfied are you with your marriage?*”, “*How satisfied are you with your partner as a spouse?*”, and “*How satisfied are you with your relationship with your spouse?*” In previous studies (e.g. Schumm et al., 1986) this measure has demonstrated

strong reliability and validity. In the current sample, items demonstrated good internal consistency for both SMs and partners, across all time points ($\alpha s > .89$).

Data Analyses

The relationship between protective buffering and spillover (hypothesis 1) was assessed with a simple bivariate correlation². To assess how partners' protective buffering was associated with SMs' individual distress and marital satisfaction during deployment (hypothesis 2), I first used hierarchical regressions, to maximize power in the context of the small sample size. Two regressions were run with (1) SM psychological distress and (2) SM marital satisfaction as outcomes. In order to control for potential overlapping variables, a baseline measure of the outcome variable and the concurrent score on the other distress variable were entered in Step 1 (e.g., in predicting SM psychological distress during deployment, SM psychological distress at the pre-deployment time point and SM marital satisfaction assessed during deployment were entered in step 1).

Protective buffering by non-deployed partners was then entered in Step 2³.

Next, a broader multigroup, cross-lagged autoregressive model of SM distress and marital satisfaction modeled across time was used to further assess hypothesis 2 and to address hypothesis 3 (that any differences in SM distress or marital satisfaction related to buffering would continue into post-deployment). Given the unique stressors of pre-deployment, deployment, and post-deployment, it was expected that associations would

² In order to test whether group (i.e., whether or not couples were assigned to the marital education program) changed the relationship between protective buffering and spillover, a hierarchical regression of the relationship between protective buffering and spillover while controlling for group was also run. There were no changes in the significance of the relationship; thus, only the original correlation is reported.

³ The hierarchical regressions were also run while controlling for group. There were no changes in the associations; thus, only the original regressions are reported.

vary across time points. Thus, no coefficients were constrained across time periods (e.g., path from pre-deployment distress to deployment distress was *not* constrained to be equal to the path from deployment distress to post-deployment distress). In order to assess whether levels and slopes of these variables differed based on protective buffering, high and low protective buffering groups were created using a median split, with couples whose values were at or below the median being labeled as low protective buffering. In the initial model, paths were allowed to vary across groups. Subsequently, paths were systematically constrained across the two groups, and relative fit was examined to determine if constraining the path resulted in a significant decrement in fit. Within this framework, hypothesis 2 was tested by assessing for differences across high and low buffering groups in the intercepts of SM distress and marital satisfaction at deployment. Hypothesis 3 was assessed by looking at group differences in the slopes from the deployment distress variables to post-deployment distress variables, as well as the intercepts of both distress variables at post-deployment.

Finally, hypotheses 4 and 5 were assessed using the same procedures as described above, but with partner values on psychological distress and marital satisfaction variables.

Results

Preliminary Analyses and SM Spillover

First, descriptive analyses were run on the variables of interest. Protective buffering was highly prevalent in the sample. Partners had a mean score of 3.74 ($SD = 1.45$), which indicates most partners at least sometimes engaged in protective buffering.

Only 4% of participants reported they never engaged in protective buffering. As shown in Table 2 and previously described, SMs in this sample reported significantly lower psychological distress at post-deployment as compared to before or during deployment, and their marital satisfaction was significantly higher during deployment, relative to pre- and post-deployment. Partners' distress and marital satisfaction were consistent across time.

Next, bivariate correlations were run between protective buffering and the variables of interest, including SMs' report of spillover (see Table 8). The correlations were all small and nonsignificant, save for the association between protective buffering and SM marital satisfaction during deployment, which was medium in size and negative. Thus, contrary to Hypothesis 1, protective buffering by partners was unrelated to SMs' report of spillover.

Table 8
Bivariate Correlations of Protective Buffering by Partners with Variables of Interest across Time Points

	Pre-Deployment	Deployment	Post-Deployment
SM Spillover	-	.14	-
SM Distress	-.15	.20	-.14
SM Marital Satisfaction	.12	-.49***	-.02
Partner Distress	-.09	.25	-.08
Partner Marital Satisfaction	-.06	-.28	.15

* $p < .05$. ** $p < .01$. *** $p < .001$.

Note. SM = service member.

SM Marital Satisfaction and Psychological Distress

As shown in Table 9, the hierarchical regressions of SMs' marital satisfaction and psychological distress during deployment revealed that, consistent with the correlational results, protective buffering by partners was significantly related to concurrent SM marital satisfaction, but not distress, during deployment. Protective buffering by partners was negatively associated with SMs' marital satisfaction such that higher buffering was associated with lower satisfaction.

Table 9
Hierarchical Regressions of SM Distress and Marital Satisfaction During Deployment onto Protective Buffering and Covariates

	<i>B</i>	<i>SE B</i>	β	R^2 Change
<i>SM Individual Distress</i>				
Step 1				0.33
SM Individual Distress (pre-deployment)	0.49	.16	.45**	
SM Marital Satisfaction (deployment)	0.23	.13	.26	
Step 2				0.00
SM Individual Distress (pre-deployment)	.51	.17	.47**	
SM Marital Satisfaction (deployment)	0.20	.15	.23	
Protective Buffering	.05	.12	.07	

SM Marital Satisfaction

Step 1				0.34
SM Marital Satisfaction (pre-deployment)	.36	.11	.45**	
SM Individual Distress (deployment)	0.38	.16	-.34*	
Step 2				0.16
SM Marital Satisfaction (pre-deployment)	.41	.10	.51***	
SM Individual Distress (deployment)	0.34	.14	-.30*	
Protective Buffering	0.34	.11	-.41**	

* $p < .05$. ** $p < .01$. *** $p < .001$.

Next, the initial multigroup, cross-lagged autoregressive model of SM individual distress and marital satisfaction modeled across time (with all paths freed across groups) was assessed. The model provided good fit for the data (CFI = 1.00; RMSEA = .000). The changes in model fit due to systematically constraining each intercept and slope across high and low protective buffering groups are shown in Table 10. Two parameters were identified as contributing to significantly worse fit when constrained: SM marital satisfaction intercept at deployment and the path from pre-deployment marital satisfaction to deployment marital satisfaction.

Table 10
Chi-Square Changes in SMs' Model Fit When Parameters Were Constrained Across Groups

	χ^2 (df)
Unconstrained Model	3.72 (4)
Intercepts	
Distress (pre-deployment)	0.82 (1)
Distress (deployment)	0.37 (1)
Distress (post-deployment)	3.08 (1)
Marital Satisfaction (pre-deployment)	0.84 (1)
Marital Satisfaction (deployment)	16.56 (1)***
Marital Satisfaction (post-deployment)	0.18 (1)
Slopes	
Distress pre-deployment to deployment	0.01 (1)
Distress deployment to post-deployment	0.98 (1)
Marital Satisfaction pre-deployment to deployment	22.12 (1)***
Marital Satisfaction deployment to post-deployment	0.35 (1)

* $p < .05$. ** $p < .01$. *** $p < .001$.

The final model with all other intercepts and paths constrained across groups had acceptable fit (χ^2 (21) = 26.60, $p = .185$; CFI = .936, RMSEA = .073), and parameters are shown in Figure 1. In this model, SM marital satisfaction at deployment was lower when protective buffering was high ($B = 0.53$, $SE = 0.67$) than when protective buffering was low ($B = 6.75$, $SE = 0.60$). Also, the slope between pre-deployment and deployment

marital satisfaction was more stable when protective buffering was high ($B = 0.87$, $SE B = 0.10$, $p < .001$) than when protective buffering was low ($B = 0.06$, $SE B = 0.87$, $p = .797$). These findings indicate that, when partners had higher buffering, SMs' satisfaction remained fairly stable from pre-deployment to deployment, whereas when partners had lower buffering, SMs' marital satisfaction likely increased from pre-deployment to deployment (accounting for the higher overall levels of marital satisfaction at deployment found in the repeated measures ANOVA). Thus, consistent with the above described regressions, results of this model partially supported hypothesis 2 with regard to SM marital satisfaction but not distress.

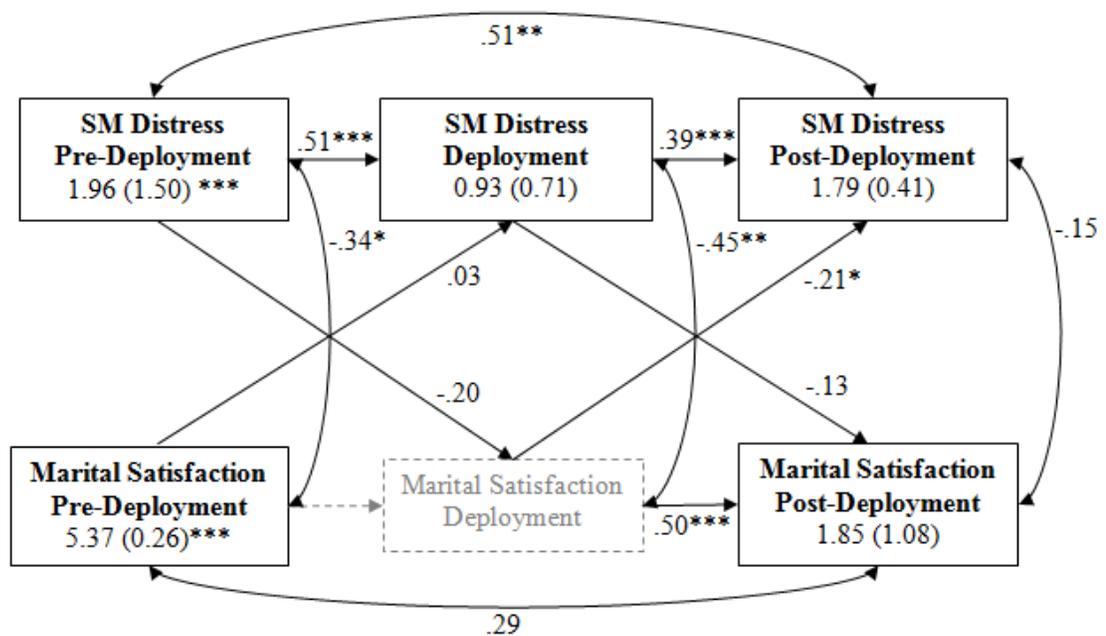


Figure 1
Cross-Lagged Autoregressive Model for SM Outcomes

Partner Marital Satisfaction and Psychological Distress

As shown in Table 11, the hierarchical regressions of partners' marital satisfaction and psychological distress during deployment revealed that protective buffering by partners was significantly related to concurrent partner distress, but not marital satisfaction, during deployment. Protective buffering by partners was positively associated with their own distress such that higher buffering was associated with higher distress.

Table 11
Hierarchical Regressions of Partner Distress and Marital Satisfaction During Deployment onto Protective Buffering and Covariates

	<i>B</i>	<i>SE B</i>	β	R ² Change
<i>Partner Individual Distress</i>				
Step 1				0.46
Partner Individual Distress (pre-deployment)	0.67	0.14	.67***	
Partner Marital Satisfaction (deployment)	-0.03	0.10	-.04	
Step 2				0.07
Partner Individual Distress (pre-deployment)	0.68	0.13	.68***	
Partner Marital Satisfaction (deployment)	-0.01	0.09	-.01	
Protective Buffering	0.18	0.08	.27*	
<i>Partner Marital Satisfaction</i>				
Step 1				0.36
Partner Marital Satisfaction (pre-deployment)	0.47	0.12	.56**	

Partner Individual Distress (deployment)	-0.15	0.20	-.11	
Step 2				0.00
Partner Marital Satisfaction (pre-deployment)	0.47	0.12	.56**	
Partner Individual Distress (deployment)	-0.15	0.21	-.11	
Protective Buffering	-0.00	0.14	-.00	

* $p < .05$. ** $p < .01$. *** $p < .001$.

Next, the initial multigroup, cross-lagged autoregressive model of partner individual distress and marital satisfaction modeled across time (with all paths freed across groups) was assessed. The model provided good fit for the data (CFI = 1.00; RMSEA = .000). The changes in model fit due to systematically constraining each intercept and slope across high and low protective buffering groups are shown in Table 12. Two parameters were identified as contributing to significantly worse fit when constrained: partner individual distress during deployment and the path from pre-deployment distress to deployment distress.

Table 12
Chi-Square Changes in Partners' Model Fit When Parameters Were Constrained Across Groups

	χ^2 (df)
Unconstrained Model	3.24 (4)
Intercepts	

Distress (pre-deployment)	0.01 (1)
Distress (deployment)	7.17 (1)**
Distress (post-deployment)	0.05 (1)
Marital Satisfaction (pre-deployment)	2.62 (1)
Marital Satisfaction (deployment)	0.00 (1)
Marital Satisfaction (post-deployment)	0.06 (1)
Slopes	
Distress pre-deployment to deployment	5.08 (1)*
Distress deployment to post-deployment	0.35 (1)
Marital Satisfaction pre-deployment to deployment	0.57 (1)
Marital Satisfaction deployment to post-deployment	0.15 (1)

* $p < .05$. ** $p < .01$. *** $p < .001$.

The final model with all other intercepts and paths constrained across groups had acceptable fit ($\chi^2 (21) = 23.67, p = .309$; CFI = .963, RMSEA = .050), and parameters are shown in Figure 2. In this model, partner distress at deployment was higher when protective buffering was high ($B = 0.75, SE B = 0.63, p = .232$) than when protective buffering was low ($B = -0.12, SE B = 0.57, p = .830$). Also, the slope between pre-deployment and deployment distress was more stable when protective buffering was low ($B = 0.92, SE B = 0.12, p < .001$) than when protective buffering was high ($B = 0.59, SE B = 0.17, p = .003$), although both were fairly stable. These findings indicate that partners with lower buffering had low and fairly stable distress from pre-deployment to

deployment, whereas partners with higher buffering had distress that was less stable from pre-deployment to deployment and, consequently, higher at deployment. Thus, consistent with the above described regressions, results of this model partially supported hypothesis 4 with regard to partner distress but not marital satisfaction.

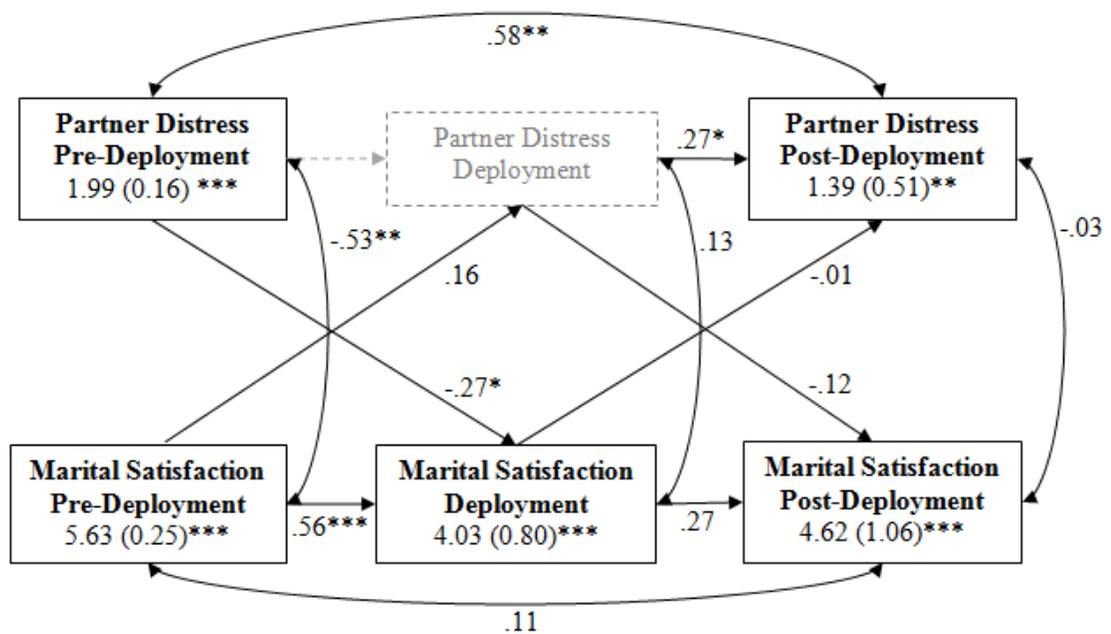


Figure 2
Cross-Lagged Autoregressive Model for Partner Outcomes

Discussion

The current study represents the first quantitative assessment of protective buffering by partners that included data from partners *and* SMs. The study also benefitted from data collected before, during, and after a deployment. In line with results of qualitative studies (for review, see Wilson & Murray, 2016), nearly all of the non-

deployed partners in this sample described engaging in at least some protective buffering during SMs' deployment. However, the relationship between partners' protective buffering and SMs' report of spillover during deployment was not only nonsignificant, but it was positive in direction (i.e., more buffering associated with more spillover). Thus, although partners have described engaging in protective buffering for the explicit purpose of reducing distraction in SMs during deployment (Cafferky, 2014), the current findings do not support the efficacy of this strategy. Given that conflictual communication and relationship distress have been related to impairments in work functioning in deployed SMs (Cigrang et al., 2013; Carter et al., 2015), the current findings suggest that maladaptive couple functioning is more likely than disclosing potentially stressful information to lead to family problems spilling over into deployment work functioning.

Contrary to expectations and extensive civilian research (e.g., Coyne & Smith, 1994; Langer et al., 2009; Suls et al., 1997), partners' protective buffering was not related to SM psychological distress. However, more protective buffering by partners was significantly related to poorer SM marital satisfaction during deployment. Additionally, SMs whose partner engaged in lower levels of buffering had a less stable path between satisfaction at pre-deployment and during deployment. Together with the finding of overall higher levels of marital satisfaction at deployment in this sample, these findings suggest that SMs whose partners engaged in less protective buffering experienced *increases* in their marital satisfaction during deployment. These results are in line with the robust literature emphasizing the importance of disclosure between partners, and the positive impacts of disclosure on higher marital functioning and satisfaction (e.g.,

Finkenauer, Engels, Branje, & Meeus, 2004; Laurenceau, Barrett, & Rovine, 2005; Rosenfeld & Bowen, 1991).

Of note, the current findings may highlight important differences in civilian and military populations. For instance, civilian research of protective buffering has historically focused on partners who are co-located but withholding information about physical illnesses (e.g., cancer). Buffering within military populations appears to primarily occur during a deployment, when partners withhold information about problems occurring at home (for review, see Carter & Renshaw, 2016). Being geographically separated may give SMs less indication overall as to the severity or frequency of the problems occurring at home. Additionally, some SMs have reported attempting to purposefully distance themselves from emotionally distressing situations or conversations in order to focus on the mission (e.g., MacDermid et al., 2005). Unlike civilians who are not typically facing such dangerous conditions, some SMs may prefer to have limited information about stressful problems occurring and, thus, not have a negative reaction to buffering. At the same time, SMs report disliking when partners proactively act as gate-keepers to decide what information gets disclosed (MacDermid et al., 2005). Thus, it may not be the limited information that is upsetting, but the feeling that a romantic partner is keeping important information from them, resulting in an association with marital satisfaction, but not distress.

Beyond the effects on SMs, protective buffering may have detrimental impacts for partners. Partners who reported higher levels of protective buffering during deployment also endorsed higher levels of concurrent distress. This finding is consistent with civilian

research that has reliably found that those who engage in protective buffering have higher cross-sectional and longitudinal distress themselves (e.g., Demerouti et al., 2007; Ford et al., 2007). When faced with stressors, disclosing related thoughts and emotions to others can help to alleviate distress (e.g., Lepore, Fernandez-Berrocal, Ragan & Ramos, 2004; Pennebaker, 1993). Not disclosing stressors may deny partners of these potential benefits, resulting in continuing or higher distress. Notably, distress was only cross-sectionally related to protective buffering. Thus, it is equally plausible that partners who are in distress are more likely to shield their deployed partner from it. Finally, partners with lower protective buffering had stronger associations between pre-deployment and deployment levels of distress, relative to those with higher protective buffering. Thus, low-buffering partners appear to have consistently lower distress levels across time. It may be that partners with less distress simply have less motivation to engage in buffering.

In a pattern opposite to SMs, protective buffering had a significant association with partners' distress but not their marital satisfaction. Again, the size of bivariate associations was similar; thus, these results may have been impacted by low power. At the same time, being a military partner often comes with unique stressors, including deployment separations, frequently moving, and high demands on SMs' time (Wilson & Murray, 2016). It may be that these stressors, while psychologically distressing to cope with, are understood to be byproducts of the military, rather than being caused by the SM. Thus, partners may be more likely to experience psychological rather than relationship distress, with negative feelings about deployment stressors targeted toward the military in general, rather than their partner.

Overall, protective buffering was found to be highly common. Yet, the lack of association with reduced spillover, coupled with negative consequences for both SMs and partners, suggest that this frequent behavior, although possibly well-intentioned, is ultimately unsuccessful. Thus, rather than partners attempting to withhold or minimize problems to reduce SM distraction, couples may instead benefit from strengthening communication skills before deployment. Marriage education or personal counseling may assist in increasing healthy coping and communication skills in order to adaptively face deployment stressors both individually and as a couple (e.g., Stanley et al., 2014). Additionally, it may be beneficial for couples to explicitly decide, before a deployment, what topics they are comfortable discussing during the deployment, encouraging healthy, purposeful disclosure that may actually deepen intimacy and marriage satisfaction (e.g., Carter & Renshaw, 2016; Finkenauer et al., 2004; Laurenceau et al., 2005).

Several study limitations should be noted. First, the study used a small sample, so low power may have obfuscated some associations. Also, significant findings that did emerge likely have large error bands. Thus, all findings should be regarded as preliminary and would benefit from replication in larger studies. Additionally, the study was comprised entirely of male Army soldiers and their female spouses. Findings may not generalize to couples that do not conform to the gender roles typically found in the military (Dunivin, 1994), such as female service members and same-sex couples. SMs had also served an average of over 13 years in the Army. Differing deployment experiences among military branches, including the jobs and deployment tempo (Ostrow, 2013), may limit the generalizability of these findings to the other military branches.

Future research would benefit from assessing protective buffering in a more robust and diverse sample.

Despite these limitations, the current study addresses an understudied but important issue, using longitudinal data from both partners in couples before, during, and after a deployment. Thus, the study was able to better assess the short and long-term impacts of protective buffering. Overall, the current study offers an important first step in understanding protective buffering by non-deployed partners. Additional research will offer a deeper comprehension as to the impacts of protective buffering and how couples can best navigate the stressors of deployment.

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