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14. ABSTRACT

The reentry of service members back into family life after deployment can be extremely challenging for military couples. Understanding the factors that contribute to the reintegration difficulty of returning service members and at-home partners is essential for attracting, retaining, and safeguarding the nation's best military personnel. The ***goal of this project*** was to evaluate how people's mental health symptoms and romantic relationship characteristics predict their difficulty with reintegration.

The ***research design*** was an 8-wave longitudinal study in which 555 military couples completed an online survey once per month for eight consecutive months beginning at homecoming. Military couples were eligible to participate if (a) individuals were involved in a romantic relationship, and (b) both partners completed the Wave 1 survey during the first week after reunion following deployment. Findings point to the key roles of mental health symptoms and relationship characteristics in the reintegration difficulty experienced by returning service members and at-home partners (Knobloch, Knobloch-Fedders, & Yorgason, under review). Supplementary results indicate that people's reports of communication during deployment predict their symptoms of anxiety during the post-deployment transition (Knobloch, Knobloch-Fedders, & Yorgason, 2018). The data suggest several empirically-grounded recommendations for reintegration.

15. SUBJECT TERMS
reintegration difficulty; military couples; mental health; anxiety; depression; posttraumatic stress; relationship satisfaction; relational turbulence

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Reintegration Difficulty of Military Couples Following Deployment
Knobloch (PI) & Knobloch-Fedders (Co-I)

Table of Contents

1. Introduction

The reentry of service members back into family life after deployment can be extremely challenging for military couples. Understanding the factors that contribute to the reintegration difficulty of returning service members and at-home partners is essential for attracting, retaining, and safeguarding the nation's best military personnel. The ***goal of this project*** was to evaluate how people's mental health symptoms and romantic relationship characteristics predict their difficulty with reintegration. The ***research design*** was an 8-wave longitudinal study in which 555 military couples completed an online survey once per month for eight consecutive months beginning at homecoming.

Our specific aims and hypotheses draw on the ***relational turbulence model*** to address three possibilities for how people's mental health symptoms and romantic relationship characteristics may predict their reintegration difficulty. The relational turbulence model identifies relational uncertainty and interference from partners as mechanisms of upheaval during times of transition (Knobloch & Theiss, 2011, 2012, 2017).

Specific Aim 1: Evaluate the mechanisms of relational turbulence as ***independent predictors*** of the reintegration difficulty of returning service members and at-home partners (see Diagram 1).

Hypothesis 1: Symptoms of depression, anxiety, and posttraumatic stress are positively associated with the reintegration difficulty of returning service members and at-home partners across the reunion period (per Diagram 1 path a).

Hypothesis 2: Relational uncertainty is positively associated with the reintegration difficulty of returning service members and at-home partners across the reunion period (per Diagram 1 path b).

Hypothesis 3: Interference from partners is positively associated with the reintegration difficulty of returning service members and at-home partners across the reunion period (per Diagram 1 path c).

Research Question 1: Do the main effects predicted by Hypotheses 1, 2, and 3 vary by previous deployment experience?

Specific Aim 2: Investigate relational uncertainty and interference from partners as ***mediating pathways*** linking mental health symptoms to the reintegration difficulty of returning service members and at-home partners (see Diagram 2).

Hypothesis 4: Relational uncertainty mediates the positive associations that symptoms of depression, anxiety, and posttraumatic stress share with the reintegration difficulty of returning service members and at-home partners across the reunion period (per Diagram 2 paths a_1 and b).

Hypothesis 5: Interference from partners mediates the positive associations that symptoms of depression, anxiety, and posttraumatic stress share with the reintegration difficulty of returning service members and at-home partners across the reunion period (per Diagram 2 paths a_2 and c).

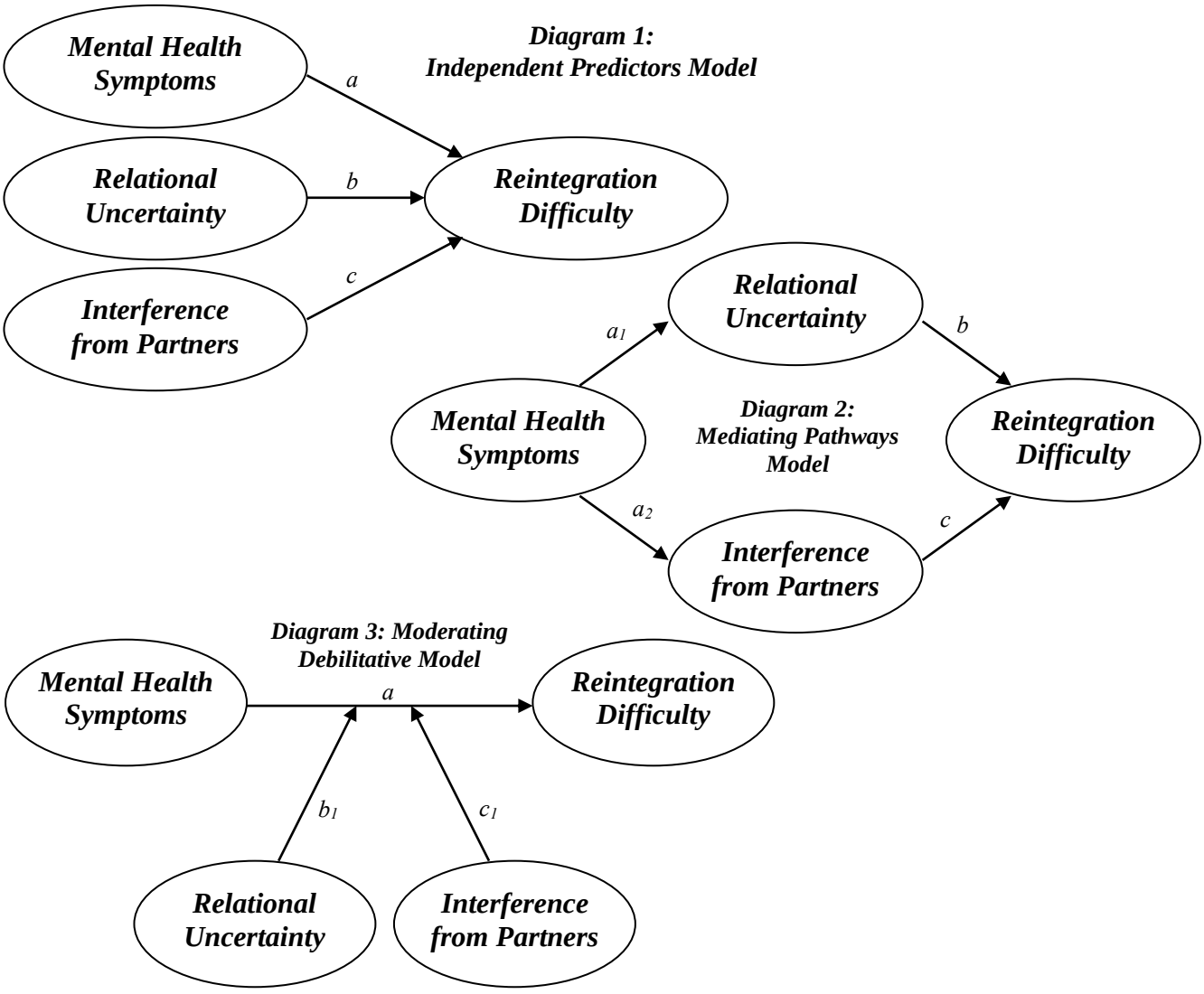
Research Question 2: Do the mediating effects predicted by Hypotheses 4 and 5 vary by previous deployment experience?

Specific Aim 3: Test relational uncertainty and interference from partners as ***moderating debilitative factors*** of the associations that mental health symptoms share with the reintegration difficulty of returning service members and at-home partners (see Diagram 3).

Hypothesis 6: Relational uncertainty moderates the positive associations that symptoms of depression, anxiety, and posttraumatic stress share with the reintegration difficulty of returning service members and at-home partners across the reunion period (per Diagram 3 paths a and b_1).

Hypothesis 7: Interference from partners moderates the positive associations that symptoms of depression, anxiety, and posttraumatic stress share with the reintegration difficulty of returning service members and at-home partners across the reunion period (per Diagram 3 paths a and c_1).

Research Question 3: Do the moderating effects predicted by Hypotheses 6 and 7 vary by previous deployment experience?



2. Keywords

reintegration difficulty; military couples; mental health; anxiety; depression; posttraumatic stress; relationship satisfaction; relational turbulence

3. Accomplishments

Major Goals of the Project

Year 1 Goals – Preparation for Data Collection

1. Seek IRB approval (completed 12 March 2014).
2. Solicit military family life contacts for advertising (began 15 April 2014, completed 27 July 2015).

Year 2 and Year 3 Goals – Recruitment and Data Collection

1. Identify returning military units (began 15 April 2014, completed 27 July 2015).
2. Advertise through online and newspaper channels (began 15 April 2014, completed 27 July 2015).
3. Enroll military couples (began 15 April 2014, completed 27 July 2015).
4. Manage data collection, retention, and e-card distribution (began 15 April 2014, completed 1 August 2015).

Year 4 Goals – Data Analysis and Dissemination

1. Clean data in preparation for analysis (completed 15 June 2016).
2. Analyze data (began 15 June 2016, completed 28 March 2018).
3. Collaborate with consultant Dr. Jeremy Yorgason to interpret the results (began 15 June 2016, completed 28 March 2018).
4. Draft scholarly manuscripts for submission to peer-reviewed academic journals (began 15 June 2016, first manuscript accepted for publication 20 June 2017, capstone manuscript submitted for consideration on 15 November 2017 and invited for revision on 21 July 2018, pro bono manuscript preparation ongoing).
5. Disseminate results to military channels, media outlets, and scholarly conferences (began 1 July 2017, completed 25 June 2018, pro bono dissemination ongoing).
6. Identify empirically-based guidelines to inform education, prevention, and intervention efforts to promote the well-being of military couples (began 7 July 2017, completed 11 June 2018).

Accomplishments Under the Goals

The goal of this project was to evaluate how people's mental health symptoms and romantic relationship characteristics predict their difficulty with reintegration. The research design was an 8-wave longitudinal study in which 555 military couples completed an online survey once per month for eight consecutive months beginning at homecoming.

Year 1 Major Task 1: Collaborate with the consultants to finalize the research protocol (completed 5 December 2013).

Year 1 Major Task 2: Seek IRB approval from the University of Illinois (approved 3 February 2014), Northwestern University (approved 13 February 2014), and the USAMRMC Office of Research Protections Human Research Protection Office (HRPO; approved 12 March 2014).

Year 1 Major Task 3: Upload online surveys (completed 5 December 2013).

Year 2 & 3 Major Task 1: Advertise through online and newspaper channels (began 15 April 2014, completed 27 July 2015).

Year 2 & 3 Major Task 2: Identify returning military units (began 15 April 2014, completed 27 July 2015).

Year 2 & 3 Major Task 3: Solicit military family life contacts for advertising (began 15 April 2014, completed 27 July 2015).

Year 2 & 3 Major Task 4: Manage enrollment, retention, and e-card distribution (began 15 April 2014, completed 1 August 2015).

Year 4 Major Task 1: Clean data in preparation for analyses (began 1 November 2015, completed 15 June 2016).

Year 4 Major Task 2: Analyze data (began 15 June 2016, completed 28 March 2018).

Year 4 Major Task 3: Collaborate with consultant Dr. Jeremy Yorgason to interpret the results (began 15 June 2016, completed 28 March 2018).

Year 4 Major Task 4: Draft scholarly manuscripts for submission to peer-reviewed academic journals (began 15 June 2016, first manuscript accepted for publication 20 June 2017, capstone manuscript submitted for consideration on 15 November 2017 and invited for revision on 21 July 2018, pro bono manuscript preparation ongoing).

Year 4 Major Task 5: Disseminate the results to military channels, media outlets, and scholarly conferences (began 1 July 2017, completed 25 June 2018, pro bono dissemination ongoing).

Year 4 Major Task 6: Identify empirically-based guidelines to inform education, prevention, and intervention efforts to promote the well-being of military couples (began 7 July 2017, completed 11 June 2018).

Advertising

We recruited participants through military family life channels on a rolling basis. We sought to attract the attention of the at-home partner as the entry point for enrolling military couples.

Our recruitment strategies included (a) posting to online forums, listservs, message boards, support groups, and Facebook pages frequented by military families; (b) circulating press releases to military installation newspapers; (c) sending announcements to military family life professionals, state family program directors, family readiness officers, directors of psychological health, family assistance coordinators, fleet and family readiness officers, chaplains, and military personnel located in all 50 states; (d) distributing information through national organizations such as the National Military Family Association and the Military Child Education Coalition; (e) placing paid advertisements in installation, base, and camp newspapers; (f) doing interviews with media organizations and military installation newspapers; and (g) writing guest essays for popular military family life blogs. Of the seven strategies, we found the first four strategies to be the most effective.

Enrollment

Military couples were eligible if (a) partners had separate email accounts, (b) one or both partners had recently returned home from deployment, and (c) both partners completed the Wave 1 questionnaire within the first seven days after reunion. Most participants reserved a spot in the study several months in advance of their projected reunion date, but others enrolled upon homecoming.

We implemented stringent procedures to guard against the risk of fraud. Those safeguards included:

Maintaining tight control over our advertising materials and circulating them only to military family life professionals, family readiness coordinators, chaplains, military nonprofit organizations, and military installation newspapers working with returning service members and their families.

Tracking our advertising procedures alongside the military couples who volunteered to ensure that boosts in interest were tied to specific outreach efforts.

Screening out any and all suspicious volunteers (e.g., asking them to report the military installation the service member was returning to). We took a rigorous approach by declining spots in the study to any questionable volunteers.

Embedding a survey completion code at the end of each questionnaire and requiring individuals to email us their code after submitting their responses so we could verify their participation before sending their e-gift card.

Programming the survey software to track the amount of time individuals spent completing each questionnaire to screen out any fast-moving or slow-moving outliers.

Cleaning the data for all waves continuously to identify any dubious patterns. Our careful inspection of the data revealed notable problems for only five couples (less than 1% of the sample). We deleted those five couples from the dataset.

Data Collection Procedures

Our advertisements invited interested individuals to email a research account (military.couples.study@gmail.com) with (a) their name and email address, (b) their partner's name and email address, and (c) the anticipated date of the service member's homecoming within the limits of OPSEC. We emailed each partner individually with a description of the study and a request to respond if willing to participate.

After both partners replied to an email soliciting their consent, we emailed each person a link to the Wave 1 questionnaire along with a unique login and a temporary password. Participants logged into the Wave 1 questionnaire to select a permanent password for the duration of the study. We sent reminder emails on the fourth day and the sixth day after reunion, and on the seventh day, the Wave 1 logins expired. We eliminated 32 military couples because one or both partners failed to complete the Wave 1 questionnaire by the one-week deadline.

Data collection continued with the remaining 555 military couples for seven consecutive months. On the monthly anniversary of their reunion date, we emailed participants a link to the next questionnaire, which remained open for seven days, along with reminder emails on the fourth day and the sixth day. Individuals received a $15 e-gift card from a national retailer for each wave of the study they completed, plus a bonus $50 e-gift card if they completed all waves.

Sample Characteristics

Our final sample included 555 couples (N = 1,110 individuals) who completed all procedures. Individuals responded to the Wave 1 questionnaire an average of 4.27 days after reunion (SD = 1.81 days). The rate of participation remained high across waves:

Response rate for Wave 1 = 100%

Response rate for Wave 2 = 91%

Response rate for Wave 3 = 92%

Response rate for Wave 4 = 88%

Response rate for Wave 5 = 89%

Response rate for Wave 6 = 88%

Response rate for Wave 7 = 86%

Response rate for Wave 8 = 88%

Our final sample contained 554 men and 556 women (n = 554 cross-sex couples, 1 same-sex couple). Individuals were Caucasian (81%), Latino/a (10%), African American (4%), Asian or Pacific Islander (3%), or American Indian or Alaskan Native (2%). Participants ranged from 19 to 59 years of age (M = 31.18 years, SD = 6.39 years) and hailed from 44 U.S. states, the District of Columbia, and Guam.

Participants described their education as some high school (1%), high school graduate (13%), some college (31%), associate's degree (15%), bachelor's degree (28%), and advanced graduate degree (12%). Most individuals reported an annual household income of between $21,000 to $40,000 (23%), $41,000 to $60,000 (32%), or $61,000 to $80,000 (18%).

Most military couples were married (95%), and of those who were married, most were involved in their first marriage (81%) versus a remarriage (19%). The majority of military couples lived in the same residence upon reunion (96%) and had children (71%). The length of their romantic relationship averaged 8.43 years (*SD* = 5.40 years).

Most returning service members were men (*n* = 547) and at-home partners were women (*n* = 548). The majority of at-home partners were civilians (88%), but others were current (5%) or former (7%) members of the military.

Returning service members were affiliated with the U.S. Army (40%), Navy, (21%), Marines (18%), Air Force (10%), Army National Guard (8%), Air National Guard (2%), and Coast Guard (1%). The length of their deployment averaged 7.71 months (*SD* = 2.31 months), and their primary mission during deployment was combat (60%), peacekeeping (17%), training (15%), relief (3%), or undisclosed (5%).

Approximately 30% of returning service members had deployed for the first time; others had completed one (24%), two (17%), three (13%), four (8%), or five or more (8%) previous deployments.

Measures of Covariates

We measured 18 secondary covariates and two core covariates for the sake of comprehensiveness. The secondary covariates included four individual characteristics (i.e., sex, race, age, and education), two methodological characteristics (number of days elapsed between reunion and participation in Wave 1, version of the measures of depressive and anxiety symptoms), seven relationship characteristics (i.e., household income, relationship length, marital status, prior marriage for the returning service member, prior marriage for the at-home partner, living together in the same residence upon reunion, and the presence of children), and five military characteristics (i.e., military branch, dual-military couple status, first deployment for the returning service member, length of deployment, and mission during deployment). The core covariates were combat exposure during deployment and relationship satisfaction. Confirmatory factor analytic results verified the unidimensional structure of the core covariates with model fit criteria set at CFI > .950 and RMSEA < .060 (per Hu & Bentler, 1999).

Combat exposure during deployment. Returning service members responded to Keane et al.'s (1989) Combat Exposure Scale (CES) at Wave 1, and following Renshaw, Rodrigues, and Jones (2008, p. 588), at-home partners responded to the same items at Wave 1 with instructions to provide their best understanding of their partner's experiences during deployment. Participants used a 5-point scale to indicate the frequency with which the service member (a) went on combat patrols, (b) fired rounds at the enemy, (c) saw people hit by rounds, (d) was under enemy fire, (e) was surrounded by the enemy, (f) was in danger of being injured or killed, and (g) had personnel in his or her unit who were wounded, killed, or missing in action. We computed a score for each individual as the average of the responses to the items (*M* = 0.51, *SD* = 0.64, *range* = 0.00 to 4.00, α = .75, CFI = .964, RMSEA = .058).

Relationship satisfaction. The Couples Satisfaction Index (CSI; Funk & Rogge, 2007) assessed people's Wave 1 relationship satisfaction. Three items asked individuals to rate aspects of their relationship: (a) how warm and comfortable is your relationship with your partner? (b) how rewarding is your relationship with your partner? and (c) in general, how satisfied are you with your relationship? (0 = *not at all*, 5 = *completely*). A fourth item solicited an overall rating: Please indicate the degree of happiness, all things considered, of your relationship (0 = *extremely unhappy*, 6 = *perfect*). We calculated the measure as the sum of responses (M = 17.20, SD = 3.32, *range* = 2.00 to 21.00, α = .83, CFI = .987, RMSEA = .051).

Measures of Mental Health Symptoms

Depressive symptoms. Military couples completed one of two measures of depressive symptoms at Wave 1. The first half of the sample (n = 268 couples, 48%) responded to the Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996), but because of the licensing fees required to administer the BDI at each wave, the second half of the sample (n = 287 couples, 52%) responded to the Center for Epidemiologic Studies Depression Scale Revised (CESD-R; Eaton, Muntaner, Smith, Tien, & Ybarra, 2004). For both measures, participants rated the severity of a series of symptoms (21 symptoms for the BDI-II, 20 symptoms for the CESD-R). Sample items for the CESD-R include: (a) I could not shake off the blues, (b) I had trouble keeping my mind on what I was doing, and (c) I felt depressed.

We put the scales on a common metric using conversion procedures advocated by Cohen, Cohen, Aiken, and West (1999) to calculate the percent of maximum possible score (POMP) for each item before summing scores across items. The POMP metric is superior to other conversion strategies for three reasons. First, it employs a simple linear transformation tied to the scale's original units. Second, it is not dependent on the sample or the population at large. Third, it outperforms other strategies for comparing different measures of the same construct (Cohen et al., 1999). Results of independent samples t tests showed no difference between the POMP scores for the two versions of the measure for at-home partners, t (553) = -0.35, ns, but returning service members reported more depressive symptoms on the CESD-R than the BDI-II, t (553) = -2.09, p = .037. Consequently, we controlled for the version of the measure in our substantive analyses.

The average POMP score for Wave 1 depressive symptoms was 11.84 (SD = 12.93, *range* = 0 to 100), with 158 individuals (14%) reporting scores that met or exceeded clinical cutoffs for mild to moderate depression at Wave 1 (Beck et al., 1996; Radloff, 1977).

Anxiety symptoms. Participants responded to one of two scales measuring anxiety symptoms at Wave 1. The first 268 couples (48%) completed the 21 items of the Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988). To reduce licensing costs, the second 287 couples (52%) completed the 14 items of the anxiety subscale of the Depression, Anxiety, and Stress Scale (DASS; Lovibond & Lovibond, 1995). Both scales asked individuals to indicate how much they were bothered by a set of symptoms during the past week. Example items

from the DASS include: (a) feeling terrified, (b) difficulty breathing, and (c) feeling close to panic.

We converted the two measures into a common metric using POMP scaling procedures (M = 6.80, SD = 10.27). Fifteen percent of the sample (n = 162 individuals) met or exceeded the clinical cutoff scores for mild to moderate anxiety at Wave 1 (Beck et al., 1988; Lovibond & Lovibond, 1995). Both returning service members, t (553) = 2.21, p = .28, and at-home partners, t (553) = 4.86, p < .001, reported higher POMP scores on the BAI than the DASS, so we covaried the version of the measure in our substantive analyses.

Posttraumatic stress symptoms. Individuals completed the 17-item Posttraumatic Stress Checklist (Weathers, Litz, Herman, Huska, & Keane, 1993) at Wave 1. Returning service members completed the military version (PCL-M) by rating the degree to which they had experienced symptoms related to stressful military experiences during the past month. At-home partners completed the civilian version (PCL-C), which is identical except that individuals rate symptoms related to stressful experiences in general. Sample items from the PCL-C include: (a) feeling very upset when something reminded you of a stressful experience; (b) repeated, disturbing memories, thoughts, or images of a stressful experience; and (c) avoiding activities or situations because they reminded you of a stressful experience (1 = *not at all*, 5 = *severely*). We summed the items to form the measure (M = 25.90, SD = 11.57). In total, 9% of the sample (n = 102 individuals) reported scores that met or exceeded recommended clinical cutoff values for mild to moderate posttraumatic stress at Wave 1 (Ruggiero, Del Ben, Scotti, & Rabalais, 2003).

Measures of Romantic Relationship Characteristics

Reunion uncertainty. Participants reported their reunion uncertainty via Knobloch, McAninch, Abendschein, Ebata, and McGlaughlin's (2016) measure, which was derived from open-ended data collected by Knobloch and Theiss (2012). Six unidimensional items were prefaced by the stem "How certain are you about …?" (1 = *completely uncertain*, 6 = *completely certain*): (a) how to readjust to being together, (b) how to redistribute household chores, (c) how to get to know each other again, (d) how to be sexually intimate after the time apart, (e) how to assess your partner's health and well-being, and (f) how to communicate with your partner (M = 2.09, SD = 1.04, CFI = .984, RMSEA = .051). All items were reverse scored so that higher values represented more reunion uncertainty.

Reintegration interference from a partner. Individuals responded to Knobloch et al.'s (2016) measure, which was based on free-response data reported by Knobloch and Theiss (2012). The scale began with the stem "My partner …" (1 = *strongly disagree*, 6 = *strongly agree*). Six of the seven items formed a unidimensional factor: (a) disrupts my everyday routine and schedule, (b) interferes with my ability to make my own decisions, (c) makes me feel smothered, (d) has become a different person since the deployment, (e) disrupts my social life with family and friends, and (f) makes me wish we had more time to spend together (M = 2.19, SD = 0.88, CFI = .980, RMSEA = .054).

Measures of Reintegration Difficulty

Difficulty with reintegration. Participants reported their difficulty with reintegration at each wave via Chandra et al.'s (2011) measure. Six unidimensional items completed the stem "Since I/my partner returned home from deployment, I have …" (1 = *strongly disagree*, 7 = *strongly agree*): (a) had problems getting to know my partner again, (b) had difficulty adjusting to having my partner be part of my daily routine, (c) had trouble dealing with my partner's mood changes, (d) worried about the possibility of another deployment, (e) had problems figuring out who to turn to for advice, and (f) had trouble rebalancing household tasks (CFI = .977, RMSEA < .060).

Reunion relationship challenges. At each wave, participants completed a measure grounded in open-ended comments by returning service members and at-home partners about the destructive changes in their relationship they experienced from deployment to reunion (Knobloch & Theiss, 2012). The items were introduced by the stem "Since I/my partner returned home from deployment, I have …" (1 = *strongly disagree*, 7 = *strongly agree*). Seven of the eight items formed a unidimensional factor: (a) had difficulty reconnecting with my partner, (b) had problems communicating with my partner, (c) been more independent, (d) worried about financial or employment issues, (e) had problems integrating my partner into my everyday routines, (f) noticed changes in our sexual relationship, and (g) experienced more conflict with my partner (CFI = .973, RMSEA < .060).

Preliminary Analyses

In a first preliminary analysis, we conducted paired samples *t* tests comparing the Wave 1 reports of returning service members (RSM; *n* = 555) versus at-home partners (AHP; *n* = 555). Results for the core covariates showed that returning service members reported more combat exposure during deployment than at-home partners thought they had experienced (see Table 1). Findings for the independent and dependent variables revealed that at-home partners, compared to returning service members, reported more mental health symptoms, reunion uncertainty, difficulty with reintegration, and reunion relationship challenges.

We also examined Wave 1 bivariate correlations (see Table 2). For both returning service members and at-home partners, mental health symptoms, reunion uncertainty, reintegration interference from a partner, difficulty with reintegration, and reunion relationship challenges were positively correlated and shared negative associations with relationship satisfaction.

Substantive Analyses

Unconditional models. We performed the substantive analyses in five steps using a structural equation modeling approach to dyadic growth curve modeling (Kenny, Kashy, & Cook, 2006; Peugh, DiLillo, & Panuzio, 2013). In a descriptive first step, we examined unconditional models without predictors to map trajectories of change across the eight waves of data (see Table 3 and Figure 1). Two unconditional models were estimated, one for difficulty with reintegration and one for reunion relationship challenges, that included dyadic growth curves for returning service members and at-home partners. The unconditional models contained

correlations (a) between the intercepts and slopes within couples, and (b) between the residuals within couples at each wave (per Kenny et al., 2006). We evaluated both linear and quadratic change and tested mean differences in the intercepts and slopes across partners.

Inspection of the observed means for difficulty with reintegration (see Figure 2) suggested that both returning service members and at-home partners experienced an initial increase followed by a decline over time, but only the linear decrease was statistically significant in the estimated trajectory (see Table 3). For reunion relationship challenges, the estimated trajectory revealed an initial upturn followed by a downturn that leveled off over time (see Table 3 and Figure 2). These findings are valuable for illustrating the longitudinal course of people's difficulty with reintegration and reunion relationship challenges during the eight months after homecoming.

The variance components for both dependent variables indicated a statistically significant amount of variance in the intercepts and linear slopes, and both the intercepts and linear slopes were positively correlated between partners. Returning service members and at-home partners differed in their intercepts (Wald test = 13.91, $p < .001$) but not their slopes (Wald test = 2.25, $p = .134$) for difficulty with reintegration. Similarly, they differed in their intercepts (Wald test = 15.45, $p < .001$) but not their slopes (linear slopes Wald test = 3.13, $p = .077$; quadratic slopes Wald test = 1.86, $p = .172$) for reunion relationship challenges.

Preliminary conditional models testing H1, H2, and H3. In a second step, we computed five preliminary conditional growth curve models for each dependent variable containing one substantive predictor, the two core covariates, and the 18 secondary covariates. The purpose of these models was to examine how each of the mental health symptoms and relationship dynamics predict reintegration difficulty beyond the core covariates and secondary covariates. We constructed the models to examine both actor effects and partner effects (Kenny et al., 2006) predicting each person's intercept and linear slope, and we grand-mean centered the continuous predictors to facilitate interpretation of the intercepts (see Figure 3).

The models predicting difficulty with reintegration showed appropriate fit (see Table 4). For the intercepts, actor effects consistent with our predictions revealed that returning service members and at-home partners who reported more mental health symptoms (H1a), reunion uncertainty (H2a), or reintegration interference from a partner (H3a) experienced more difficulty with reintegration at Wave 1. For the slopes, actor effects contrary to our hypotheses showed that returning service members who reported more anxiety symptoms or posttraumatic stress symptoms, and at-home partners who reported more depressive symptoms, experienced a sharper decline in difficulty with reintegration over time (H1b). Similarly, returning service members and at-home partners who reported more reunion uncertainty (H2b) or reintegration interference from a partner (H3b) experienced a steeper drop in difficulty with reintegration over time.

Partner effects emerged as well (see Table 4). When an individual reported more depressive symptoms or reunion uncertainty, his or her partner reported more difficulty with reintegration at Wave 1. Moreover, when returning service members reported more anxiety symptoms and posttraumatic stress symptoms, at-home partners reported more difficulty with reintegration at

Wave 1. Finally, when at-home partners reported more reintegration interference from a partner, returning service members experienced more difficulty with reintegration at Wave 1 and a sharper decline over time. Together, the predictors accounted for 40% to 63% of the variance in the intercepts and 13% to 25% of the variance in the slopes.

The models predicting reunion relationship challenges also demonstrated appropriate fit (see Table 5). As expected, actor effects for the intercepts indicated that each substantive predictor was positively associated with reunion relationship challenges at Wave 1 (H1a, H2a, H3a). Contrary to our hypotheses, actor effects for the slopes indicated that returning service members who experienced more posttraumatic stress symptoms (H1b), and returning service members and at-home partners who experienced more reunion uncertainty (H2b) or reintegration interference from a partner (H3b), reported a steeper decline in reunion relationship challenges over time. Figure 4 shows these patterns for people reporting levels of reunion uncertainty at one standard deviation above and below the mean.

Partner effects were apparent for the intercepts but not the slopes (see Table 5). Specifically, when an individual reported more reunion uncertainty or reintegration interference from a partner, his or her partner experienced more reunion relationship challenges at Wave 1. In addition, returning service members reported more reunion relationship challenges at Wave 1 when at-home partners experienced more depressive symptoms, and at-home partners reported more reunion relationship challenges at Wave 1 when returning service members experienced more anxiety symptoms. As a set, the predictors explained 45% to 69% of the variance in the intercepts and 11% to 23% of the variance in the slopes.

Final conditional models testing H1, H2, and H3. In a third step, we estimated final conditional models predicting difficulty with reintegration or reunion relationship challenges. These models contained the five independent variables, two core covariates, and 18 secondary covariates. Again, we evaluated actor and partner effects and grand-mean centered the continuous predictors (see Figure 5).

Results were similar across the two dependent variables (see Table 6). Consistent with our hypotheses, actor effects for the intercepts indicated that posttraumatic stress symptoms for returning service members, and depressive symptoms for at-home partners, corresponded with more difficulty with reintegration and reunion relationship challenges at Wave 1 (H1a). Moreover, reunion uncertainty (H2a) and reintegration interference from a partner (H3a) were positive predictors at Wave 1 for both returning service members and at-home partners. Contrary to our expectations, actor effects for the slopes revealed that returning service members who experienced posttraumatic stress symptoms experienced a steeper drop in reunion relationship challenges over time (H1b). For both people, reunion uncertainty (H2b) and reintegration interference from a partner (H3b) predicted a sharper decline in both dependent variables over time. The independent variables, core covariates, and secondary covariates accounted for 73% to 80% of the variance in the intercepts and 21% to 29% of the variance in the slopes.

Four partner effects surfaced. When an individual experienced reunion uncertainty, his or her partner reported more difficulty with reintegration (RSM standardized $\beta = .11$, $p < .05$; AHP β

= .12, $p < .01$) or reunion relationship challenges (RSM β = .11, $p < .01$; AHP β = .08, $p < .05$) at Wave 1. Moreover, when returning service members experienced anxiety symptoms, at-home partners reported more reunion relationship challenges at Wave 1 (β = .10, $p < .05$). Finally, when at-home partners experienced more reintegration interference from a partner, returning service members experienced a steeper drop in their difficulty with reintegration over time (β = -.20, $p < .05$). In summary, the results of the final conditional models supported our hypotheses about the magnitude of people's outcomes (intercepts; H1a, H2a, H3a) but contradicted our predictions about the change in their outcomes over time (slopes; H1b, H2b, H3b).

Mediation tests of H4 and H5. In a fourth step, we evaluated the indirect effects of mental health symptoms on reintegration difficulty through relational uncertainty (H4) and reintegration interference from a partner (H5). We employed a bootstrap approach using 5,000 draws to estimate indirect effects and bias-corrected confidence intervals (Hayes, 2013).

Findings for difficulty with reintegration revealed mediation for both depressive and posttraumatic stress symptoms (see Figure 6). For both partners, depressive symptoms exerted an indirect actor effect on the intercepts through both reunion uncertainty (RSM unstandardized *ab* = .009, $p = .001$, 95% CI [.005, .016]; AHP *ab* = .011, $p = .000$, 95% CI [.006, .018]) and reintegration interference from a partner (RSM *ab* = .010, $p = .006$, 95% CI [.004, .017]; AHP *ab* = .004, $p = .035$, 95% CI [.001, .009]). In addition, the posttraumatic stress symptoms of at-home partners had an indirect actor effect on the intercept (AHP *ab* = .006, $p = .002$, 95% CI [.003, .011]) through reintegration interference from a partner.

Results for reunion relationship challenges were similar (see Figure 7). For both returning service members and at-home partners, depressive symptoms had an indirect actor effect on the intercepts through both reunion uncertainty (RSM *ab* = .010, $p = .001$, 95% CI [.005, .017]; AHP *ab* = .011, $p = .000$, 95% CI [.006, .017]) and reintegration interference from a partner (RSM *ab* = .009, $p = .006$, 95% CI [.004, .017]; AHP *ab* = .004, $p = .030$, 95% CI [.001, .008]). One partner effect emerged such that the depressive symptoms of at-home partners had an indirect effect on the returning service member's intercept through the reunion uncertainty of at-home partners (RSM *ab* = .003, $p = .038$, 95% CI [.001, .006]). Finally, among at-home partners, posttraumatic stress symptoms had an indirect actor effect on the intercept through reintegration interference from a partner (AHP *ab* = .006, $p = .001$, 95% CI [.003, .010]). These results suggest support for reunion uncertainty (H4) and reintegration interference from a partner (H5) as mediators of the association between people's mental health symptoms and their difficulty with reintegration.

Moderation tests of H6 and H7. A next step involved testing reunion uncertainty (H6) and reintegration interference from a partner (H7) as moderators of the link between mental health symptoms and reintegration difficulty. We evaluated six models for each dependent variable that contained two interaction terms (one for each individual) computed as one mental health symptom multiplied by either reunion uncertainty or reintegration interference from a partner.

For the models predicting difficulty with reintegration, six moderation effects for the intercepts all showed the same pattern (see Figure 8 for example). In terms of actor effects, reunion uncertainty interacted with posttraumatic stress symptoms (RSM unstandardized b = -.007, p = .049) for returning service members and with anxiety symptoms (AHP b = -.005, p = .040) and posttraumatic stress symptoms (AHP b = -.004, p = .030) for at-home partners. The three partner effects, all predicting the returning service member's intercept, showed that the reunion uncertainty of at-home partners interacted with their own depressive symptoms (RSM b = -.005, p = .022) and anxiety symptoms (RSM b = -.005, p = .015), and the reintegration interference from a partner reported by at-home partners interacted with their own anxiety symptoms (RSM b = -.007, p = .033). In all cases, high levels of reunion uncertainty or reintegration interference from a partner corresponded with more difficulty with reintegration.

Two moderation effects emerged for the slopes (see Figure 9 for example). One was an actor effect. Returning service members experiencing high depressive symptoms and low reintegration interference from a partner showed an increase – rather than a decrease – in difficulty with reintegration over time (RSM b = -.002, p = .005; Wald test = 159.87, df = 1, p < .001 for the difference between the slopes of high depressive symptoms paired with low versus high reintegration interference from a partner). The other was a partner effect. When returning service members reported high depressive symptoms and low reunion uncertainty, at-home partners reported stable levels of difficulty with reintegration across waves rather than a decline over time (AHP b = -.002, p = .008; Wald test = 183.22, df = 1, p < .001 for the difference between the slopes of high depressive symptoms and low reintegration interference from a partner versus low depressive symptoms and high reintegration interference from a partner).

The models predicting reunion relationship challenges documented eight moderation effects for the intercepts, all with the same pattern (see Figure 8 for example). Among returning service members, reunion uncertainty interacted with depressive symptoms (RSM b = -.007, p = .021). Among at-home partners, reunion uncertainty interacted with depressive symptoms (AHP b = -.005, p = .018), anxiety symptoms (AHP b = -.005, p = .022), and posttraumatic stress symptoms (AHP b = -.005, p = .005), and reintegration interference from a partner interacted with anxiety symptoms (AHP b = -.009, p = .004) and posttraumatic stress symptoms (AHP b = -.007, p = .006). The two partner effects showed that, among at-home partners, reintegration interference from a partner interacted with their anxiety symptoms (RSM b = -.007, p = .019) and their posttraumatic stress symptoms (RSM b = -.006, p = .041) to predict the intercept of returning service members. In all cases, high levels of reunion uncertainty or reintegration interference from a partner coincided with more reunion relationship challenges.

One moderation effect was apparent for the slopes (see Figure 9). Returning service members experiencing high depressive symptoms and low reintegration interference from a partner reported escalating – rather than deescalating – reunion relationship challenges across waves of the study (RSM b = -.002, p = .040; Wald test = 99.80, df = 1, p < .001 for the difference between the slopes of high depressive symptoms paired with low versus high reintegration interference from a partner).

Notably, all of the moderation effects that emerged in these analyses were ordinal interactions such that the main effects of people's mental health symptoms on their reintegration difficulty were slightly stronger at high levels of reunion uncertainty (H6) or reintegration interference from a partner (H7).

Tests of RQ1, RQ2, and RQ3. A final set of analyses examined whether the substantive effects vary depending on the previous deployment experience of returning service members and at-home partners. Of the 555 returning service members included in the sample, 167 (30%) were reintegrating after their first deployment, and 388 (70%) had previous deployment experience. With respect to the number of previous deployments, 24% of returning service members had completed one previous deployment, 17% had completed two previous deployments, 13% had completed three previous deployments, 8% had completed four previous deployments, and 8% had completed five or more previous deployments.

We evaluated the research questions in three steps. First, we computed independent samples *t* tests to evaluate whether previous deployment experience (0 = first deployment, 1 = previous deployment experience) predicted people's Wave 1 reports of mental health symptoms, romantic relationship characteristics, and reintegration difficulty. Findings indicated no differences for either returning service members or at-home partners. In other words, participants with and without previous deployment experience were similar at Wave 1.

Second, we inspected the final conditional models to evaluate whether previous deployment experience predicted people's difficulty with reintegration and reunion relationship challenges beyond the variance explained by the five independent variables, two core covariates, and 17 other secondary covariates. No statistically significant effects were apparent. More specifically, previous deployment experience was not a predictor of the intercepts (RSM unstandardized $b = .10$, $p = .24$; AHP $b = .07$, $p = .41$) or slopes (RSM $b = .00$, $p = .91$; AHP $b = -.03$, $p = .15$) for reintegration difficulty for either returning service members or at-home partners beyond the other covariates and independent variables. Similarly, it did not predict the intercepts (RSM $b = .10$, $p = .20$; AHP $b = .02$, $p = .78$) or slopes (RSM $b = .00$, $p = .92$; AHP $b = -.02$, $p = .44$) for reunion relationship challenges beyond the other covariates and independent variables.

Next, we tested whether previous deployment experience interacted with people's Wave 1 reports of mental health symptoms or romantic relationship characteristics to predict their reintegration difficulty. To that end, we repeated the final conditional models but modeled interaction effects between previous deployment experience and the observed variables of depressive symptoms, anxiety symptoms, posttraumatic stress symptoms, reunion uncertainty, and reintegration interference from a partner.

Eight of the 40 tests (20%) showed moderation. We probed these interactions by computing the effects of the predictors for individuals with and without previous deployment experience at one standard deviation above and below the mean of the independent variables. Two patterns of actor effects were apparent, one involving the mental health symptoms

experienced by at-home partners and the other involving the reintegration interference from a partner experienced by returning service members.

The first pattern of moderation for previous deployment experience was relatively straightforward. At-home partners who were experiencing their first deployment and notable anxiety symptoms reported more difficulty with reintegration over time, $b = 0.003$, $p = .02$. Similarly, at-home partners who were experiencing their first deployment and notable posttraumatic stress symptoms reported more difficulty with reintegration both at Wave 1, $b = -0.01$, $p = .02$, and over time, $b = 0.004$, $p = .003$ (see Figure 10). These results imply that at-home partners with no previous deployment experience who are dealing with mental health symptoms fare worse during the transition.

The second pattern of moderation was less intuitive. Returning service members who were experiencing their first deployment and low – rather than high – reintegration interference from their partner reported increasing reintegration difficulty, $b = -0.06$, $p = .001$, and reunion relationship challenges, $b = -0.05$, $p = .02$, over time. A speculative explanation is that at-home partners who are not actively engaged in the returning service member's transition also are not providing support for the returning service member. To the extent that interference from partners occurs when individuals are interdependent in each other's daily lives and have opportunities to get in each other's way (e.g., Berscheid, 1983), returning service members without previous deployment experience may fare worse across the transition if the at-home partner is detached from their everyday routines (i.e., "checked out").

Summary of Substantive Findings

A key contribution of our findings involves mapping the transition from deployment to reintegration over time (see Figure 2). The difficulty with reintegration and reunion relationship challenges reported by returning service members and at-home partners revealed an initial uptick from Wave 1 to Wave 2 followed by a relatively steady decline and leveling off over time (see Figure 2). These findings have implications for the timing of intervention efforts. Rather than offering clinical services immediately after homecoming, when the information may not be as relevant, such programs may be most timely during the second or third month following reunion.

Our results also shed light on mental health symptoms and romantic relationship characteristics as predictors of the well-being of military couples across the post-deployment transition. Although a handful of findings were compatible with the independent predictors model (see Table 6; H1, H2, and H3) and the moderating debilitative model (see Figures 5 and 6; H6 and H7), the majority of results supported the mediating pathways model (see Figures 3 and 4; H4 and H5). These findings pave the way for advances in theory, research, and practice. With respect to theory, our results highlight the value of expanding logic about relational turbulence to integrate mental health symptoms (e.g., Knobloch & Theiss, 2011). With respect to research, our data emphasize the utility of considering relationship health along with mental health when examining post-deployment outcomes (e.g., Meadows et al., 2016). With respect to practice, our findings imply that bolstering romantic relationships could help protect military couples from the harmful effects of mental health symptoms

during the transition (Balderrama-Durbin et al., 2017; Erbes, Polusny, MacDermid, & Compton, 2008) and underscore the climate of romantic relationships as a key target of prevention and intervention efforts to help military couples negotiate reintegration (Meadows et al., 2016; Sayers, 2011).

We uncovered little evidence of moderation based on whether military couples had previous experience with deployment (RQ1, RQ2, RQ3), but results suggested that individuals navigating their first cycle of deployment and reunion reported less well-being under certain circumstances. In particular, at-home partners without previous deployment experience fared worse when they were experiencing notable anxiety symptoms or posttraumatic stress symptoms (see Figure 10), and returning service members without previous deployment experience fared worse when they encountered less interference from their partner in their everyday routines. By and large, however, previous experience with deployment was not a strong protective factor during the transition.

Supplemental Analysis 1: Communication During Deployment Predicting Generalized Anxiety Upon Reunion

The Wave 1 questionnaire included measures of how service members and at-home partners communicated during deployment, and we used those data to investigate the communication patterns of military couples during deployment as a predictor of their anxiety symptoms upon reunion. We submitted a manuscript reporting the results to a special issue on communication during deployment sponsored by the *Journal of Family Psychology*. Our manuscript was accepted for publication on 20 June 2017 (see Appendix A for the article). The abstract of the paper is as follows:

> This study draws on the *emotional cycle of deployment model* (Pincus, House, Christenson, & Adler, 2001) to consider how the valence of communication between military personnel and at-home partners during deployment predicts their generalized anxiety upon reunion. Online survey data were collected from 555 military couples (N = 1,110 individuals) once per month for eight consecutive months beginning at homecoming. Dyadic growth curve modeling results indicated that people's anxiety declined across the transition. For at-home partners, constructive communication during deployment predicted a steeper decline in anxiety over time. For both returning service members and at-home partners, destructive communication during deployment predicted more anxiety upon reunion but a steeper decline in anxiety over time. Results were robust beyond the frequency of communication during deployment and a host of individual, relational, and military variables. These findings advance the emotional cycle of deployment model, highlight the importance of the valence of communication during deployment, and illuminate how the effects of communication during deployment can endure after military couples are reunited.

Supplemental Analysis 2: Transition Experiences of Military Couples in their Own Words

Each questionnaire after Wave 1 began with an open-ended item asking returning service members and at-home partners to report any changes that had occurred in their relationship during the past month. We analyzed the data to examine how military couples experience the

transition from deployment to reunion in their own words. At present, the paper is in the final stages of preparation for submission to a journal. The working abstract of the paper is as follows:

> Guided by a relationship development perspective, this study investigated the relationship changes experienced by military couples upon reunion following deployment, along with the valence and longitudinal sequence of those changes. In a seven-wave study, 555 military service members and their at-home partners (1,100 individuals) wrote narrative descriptions of the changes that had occurred in their relationship during the past month. Military couples described changes to their relationship related to emotional intimacy and communication, sexual intimacy, spending time together, life changes and stressors, readjustment to daily life, conflict, family changes and stressors, and commitment. Overall, 49.5% of responses indicated positive changes, 38.1% described negative changes, and 12.3% were neutral changes. Changes in emotional intimacy, sexual intimacy, integration into daily life, and conflict were more salient earlier during the transition, while changes related to life and family stressors, along with commitment in the relationship, were more prominent later during the transition. The findings suggest recommendations for the provision of prevention and intervention services for military couples during the post-deployment period.

Opportunities for Training and Professional Development

Undergraduate Research Assistant Training (Unpaid)

Under Dr. Knobloch's supervision at the University of Illinois, 16 undergraduate students earned independent study credit by attending weekly team meetings, learning about the research process, and completing basic research tasks. The undergraduate research assistants helped to (a) circulate recruitment advertisements to state family program directors, family readiness officers, directors of psychological health, chaplains, and other professionals who support military families; (b) post to online forums, message boards, Facebook pages, and social networking sites geared toward military families; (c) identify military units returning from deployment; (d) purchase e-gift cards for distribution; (e) upload monthly e-mails; (f) track participation and attrition across couples and across waves; (g) clean the data in preparation for the analyses; and (h) execute the social media outreach. Most students earned one semester of credit; others earned academic year credit or summer term credit.

Under the direction of Dr. Knobloch-Fedders at The Family Institute at Northwestern University, four undergraduate students served as unpaid research assistants by attending weekly team meetings, learning about the research process, and completing basic research tasks. The undergraduate research assistants helped to (a) review the literature; (b) clean the open-ended survey data in preparation for analysis; (c) develop a codebook to measure the relevant categories within the open-ended data; and (d) code the open-ended data. Two undergraduate students volunteered on the project for one academic year, and the other two volunteered for two academic years.

Graduate Research Assistant Training (Paid)

Under Dr. Knobloch's supervision at the University of Illinois, five Ph.D. students were employed to gain research experience and complete advanced research tasks. The graduate research assistants helped to (a) review drafts of the Institutional Review Board materials; (b) conduct literature searches for relevant publications; (c) upload the online surveys into SurveyMonkey; (d) pilot test the survey format and skip logic; (e) help with recruitment; (f) complete daily checks of the survey responses for reports of suicide as required by the University of Illinois Institutional Review Board; (g) clean the incoming data; (h) provide feedback on the quarterly report materials, annual report materials, and annual in-progress review presentations; (i) circulate press releases about the study; and (j) assist in mentoring the undergraduate research assistants.

Graduate Research Assistant Training (Unpaid)

Under the direction of Dr. Knobloch-Fedders at The Family Institute at Northwestern University, seven graduate students served as unpaid research assistants by attending weekly team meetings, learning about the research process, and completing basic research tasks. The graduate research assistants helped to (a) review the literature; (b) clean the open-ended survey data in preparation for analysis; (c) develop a codebook for the open-ended data; (d) code the open-ended data; (e) assist in basic data analysis; and (f) interpret the preliminary results.

Dissemination of Results

News Coverage of the Study's Launch

University of Illinois press release (30 July 2014)
http://news.illinois.edu/news/14/0730military_families_LeanneKnobloch.html

Guest essay by Dr. Leanne Knobloch published by militaryspouse.com (8 August 2014)
http://militaryspouse.com/articles/why-is-reunion-harder-than-it-looks/

Local TV news interview given by Dr. Leanne Knobloch to WCIA 3 Champaign IL (19 August 2014)

News story in the *Fort Campbell Leaf-Chronicle* (30 September 2014)
http://www.theleafchronicle.com/story/news/local/fort-campbell/2014/09/30/study-seeks-post-deployment-fort-campbell-couples/16469795/

Northwestern University press release (8 October 2014)
http://www.newswise.com/articles/study-of-miltary-couples-launched

News story in the *Watertown Daily Times* (9 October 2014)
http://www.watertowndailytimes.com/article/20141009/OGD/141008378/2591

News story in the *Fort Hood Herald* (29 October 2014)
http://kdhnews.com/fort_hood_herald/across_the_fort/military-couples-can-participate-in-couples-study/article_3bef545e-5f32-11e4-b8aa-0017a43b2370.html

Media Coverage of Research

News story in the *Killeen Daily Herald* (14 February 2016)
http://kdhnews.com/military/studying-military-families-joy-of-reunion-challenged-by-reality-of/article_fe0a2de0-d2d4-11e5-9bd4-c3560297c1c6.html

News story in the *Killeen Daily Herald* (15 February 2016)
http://kdhnews.com/military/fort-hood-deployments-not-going-away-anytime-soon/article_c6018cba-d390-11e5-8b3e-b78ab8283319.html

News story in the *Army Times* (17 February 2016)
http://www.armytimes.com/story/military/family/2016/02/17/texas-military-families-deal-deployments-ways-cope/80523590/

Guest blog post for Spousebuzz.com (16 March 2016)
http://www.spousebuzz.com/blog/2016/03/9-homecoming-tips-from-a-communications-expert.html

News story in the *Killeen Daily Herald* (10 April 2016)
http://kdhnews.com/news/local/kids-deployments-when-a-parent-deploys-children-face-tough-challenges/article_1985aeec-fed5-11e5-8d0d-239185058a36.html

Feature story for the website of the Congressionally Directed Medical Research Programs (13 June 2018)
http://cdmrp.army.mil/phtbi/research_highlights/18knobloch_highlight

Academic Lectures

Convocation Lecture by Dr. Leanne Knobloch to Illinois College (27 October 2014)
Relational turbulence among military families reunited following deployment

Invited Address by Dr. Leanne Knobloch to the Center for Wounded Veterans in Higher Education Research Symposium, University of Illinois (24 August 2015)
Reintegration difficulty of military couples after deployment

Colloquium Presentation by Dr. Leanne Knobloch to the Department of Communication at the University of Buffalo (17 March 2017)
Welcome home: Communication and relational turbulence among military couples after deployment

Colloquium Presentation by Dr. Lynne Knobloch-Fedders to the Department of Counselor Education and Counseling Psychology at Marquette University, Milwaukee, WI (20 September 2017)

The reintegration of military couples following deployment: Mental health and relationship adjustment over time

Guest Lecture by Dr. Leanne Knobloch to the Department of Communication at the University of Wisconsin-Milwaukee (27 October 2017)

Communication among military couples after deployment

Grand Rounds Presentation by Dr. Lynne Knobloch-Fedders to the Captain James A. Lovell Federal Health Care Center, North Chicago, IL (7 December 2017)

Reintegration process of military couples after deployment: Mental health and relationship adjustment over time

Keynote Address by Dr. Leanne Knobloch to the Social and Emotional Dimensions of Well-Being Initiative, Beckman Institute at the University of Illinois (6 March 2018)

Relational turbulence and mental health within military families

Invited Address by Dr. Leanne Knobloch to the Military Family Research Institute at Purdue University (4 April 2018)

Relational turbulence among military couples during the transition from deployment to reunion

Conference presentation by Dr. Leanne Knobloch at the biennial conference of the International Association for Relationship Research, Fort Collins, CO (13 July 2018)

Interpersonal difficulty of military couples following deployment: A longitudinal application of the relational turbulence model

Briefings to Military Audiences

Distinguished Lecture by Dr. Leanne Knobloch to the National Training Seminar, Military Child Education Coalition (28 June 2016)

Welcome home: Research and tips on reintegration after deployment

Briefing by Dr. Leanne Knobloch and Dr. Lynne Knobloch-Fedders to the Military Family Support Research Team of the Office of the Deputy Assistant Secretary of Defense for Military Community and Family Policy (7 September 2017)

Reintegration difficulty of military couples following deployment

Distinguished Lecture by Dr. Leanne Knobloch to the National Training Seminar, Military Child Education Coalition (24 July 2018)

Navigating the new normal: Reintegration after deployment

Webinars to Military Audiences

Webinar co-led by Dr. Leanne Knobloch to the Military Families Learning Network (MFLN) in the concentration area of Family Transitions on 18 August 2015. The live audience was 47 military family members and military family life professionals. As of September 2017, the archived audience included 73 views of webinar and 370 views of the slides.

Communicating effectively during transitions: Managing turbulence and dilemmas

Webinar led by Dr. Leanne Knobloch to the Military Families Learning Network (MFLN) in the concentration area of Military Caregiving on 12 October 2016.

Communication for interpersonal relationships

Webinar led by Dr. Leanne Knobloch to the Military Families Learning Network (MFLN) in the concentration area of Military Caregiving on 26 April 2017.

The caregiver in the room: Considerations for providers working with families

Webinar led by Dr. Leanne Knobloch to the U.S. Department of Veteran Affairs Caregiver Support Program (VACO) on 13 July 2017. The audience was 159 social workers, registered nurses, and psychologists working with military and veteran families as Caregiver Support Coordinators.

Communication dynamics within military and veteran families

Infographic

See Appendix D for an infographic of the study's findings for dissemination to lay audiences.

Informal Dissemination

Dr. Leanne Knobloch served as a member of the working group on research and primary data collection for the Battle Plan for Military Families Symposium (held 23-24 September 2015 in Washington, DC) hosted by the Military Family Research Institute at Purdue University. Dr. Knobloch contributed expertise on recruiting military families to participate in research. The working group authored a book chapter published in 2018:

> Cozza, S. J., Knobloch, L. K., Gewirtz, A. H., DeVoe, E. R., Gorman, L. A., Flake, E. M., Lester, P. E., Kees, M. R., & Lerner, R. M. (2018). Lessons learned and future recommendations for conducting research with military children and families. In L. Hughes-Kirchubel, S. MacDermid Wadsworth, & D. S. Riggs (Eds.), *A battle plan for supporting military families: Lessons for the leaders of tomorrow* (pp. 265-288). Cham, Switzerland: Springer International.

On 28 September 2015, Dr. Leanne Knobloch was named a University Scholar by the Vice President for Academic Affairs of the University of Illinois. The award is the highest honor bestowed by the University of Illinois to recognize outstanding members of the faculty and celebrate excellence in research, teaching, and outreach. Her nomination emphasized her innovative research on military families across the deployment cycle.

In November and December of 2015, Dr. Leanne Knobloch performed the role of Subject Matter Expert for an online course geared toward military families preparing for deployment (*Strengthening and enhancing your social support network*). The course was co-sponsored by the U.S. Office of the Secretary of Defense for the Yellow Ribbon Reintegration Program and the Clearinghouse for Military Family Readiness at Pennsylvania State University.

Dr. Leanne Knobloch and Dr. Lynne Knobloch-Fedders participated in the White House Convening of *Operation Educate the Educators: Committed to recognizing and supporting our military connected students*, co-sponsored by the White House Joining Forces Initiative, the Military Child Education Coalition, and the University of Southern California (13 April 2016).

Dr. Leanne Knobloch co-authored a journal article in June of 2017 that described the growing literature on the post-deployment transition:

> Knobloch, L. K., & Theiss, J. A. (in press). Relational turbulence theory applied to the transition from deployment to reintegration. *Journal of Family Theory & Review*.

In the spring of 2018, Dr. Leanne Knobloch co-authored an edited book chapter on interpersonal communication within military couples and families. She contributed expertise on conducting research with military populations:

> Wilson, S. R., & Knobloch, L. K. (in press). Reflections on interpersonal communication research and military families. In S. R. Wilson & S. W. Smith (Eds.), *Reflections on interpersonal communication research*. San Diego, CA: Cognella.

Plans for the Next Reporting Period

Nothing to report. *(Our period of performance has ended, but we will continue to publish manuscripts from the dataset and disseminate the results into the future. We will update the agency on additional publications and dissemination efforts as they occur.)*

***Addendum*: Opportunities for Follow-On Work**

On 1 March 2017, we submitted two pre-proposals for follow-on work through the broad agency announcement:

> One pre-proposal described a project investigating how the relationship dynamics of military couples predict the reintegration difficulty of military children (*"Reintegration difficulty of military children after deployment: The role of parental dynamics"*). On 12 December 2017, we received word that the pre-proposal was invited for a full submission. We submitted the full proposal on 7 March 2018 and are awaiting a decision.
>
> The other pre-proposal described a project examining the communication of military couples during deployment as a predictor of their experiences upon reunion (*"Outcomes of communication during deployment among military couples"*). On 1 December 2017, we received word that the pre-proposal was not invited for a full submission.

4. Impact

Impact on Principal Disciplines

The principal disciplines of this project are communication studies (the affiliation of Dr. Knobloch) and clinical psychology (the affiliation of Dr. Knobloch-Fedders). Contributions to both disciplines are spotlighted in the capstone article from our project (Knobloch, Knobloch-Fedders, & Yorgason, under review; see Appendix B). Major findings show that (a) military couples reported experiencing the most difficulty with reintegration approximately 4 to 8 weeks after homecoming; (b) at-home partners reported more difficulty with reintegration than returning service members; (c) posttraumatic stress symptoms for returning service members and depressive symptoms for at-home partners were strong predictors of reintegration difficulty; and (d) military couples were more resilient during the transition when they reported less uncertainty about their relationship and less interference in each other's everyday routines. See Appendix C for a list of clinical guidelines implied by these findings and Appendix D for an infographic for dissemination.

We are working on several other journal articles that will advance the field of communication and the field of clinical psychology. We will notify the agency on the publication of those journal articles after the peer review process is complete.

Impact on Other Disciplines

Our project also has implications for the related disciplines of family psychology and relationship studies. The first journal article from our project appeared in the *Journal of Family Psychology* in a special issue devoted to communication during deployment (Knobloch, Knobloch-Fedders, & Yorgason, 2018; see Appendix A). Major findings showed that the tone of communication between military couples during deployment, rather than the frequency, predicted their symptoms of anxiety after homecoming. In addition, constructive communication during deployment predicted military couple well-being upon reunion. These findings have implications for helping deployed military personnel and at-home partners communicate effectively while apart. See Appendix C for evidence-based recommendations emerging from the study. For a feature story on the study's findings appearing on the website of the Congressionally Directed Medical Research Programs, see http://cdmrp.army.mil/phtbi/research_highlights/18knobloch_highlight.

With respect to the field of relationship studies, we have begun working to disseminate our results to an interdisciplinary audience of scholars studying interpersonal processes within couple and family relationships. To that end, we presented findings from the project at the 2018 meeting of the International Association for Relationship Research, an interdisciplinary organization that brings together relationship scientists from around the world. We plan to continue to present our results to this organization at its biennial conferences.

In addition, the success of our recruitment strategy has benefitted other projects housed in a variety of academic disciplines. Several researchers funded by the agency have contacted us

for advice on advertising and recruitment given our success in attracting participants. For example, we participated in conference calls with Dr. Keith Renshaw in July of 2015, Dr. Amishi Jha in September of 2015, and Dr. Ellen DeVoe in June of 2016. We also worked with Dr. Belinda Sims, Health Scientist Administrator at the National Institute on Drug Abuse, in November of 2017 to offer recruitment guidance for a project funded by the National Institute on Drug Abuse awarded to Ms. Kerry Evers, CEO of Pro-Change Behavior Systems, Inc., and Ms. Cindy Umanzor, Senior Manager for Research & Development at Pro-Change Behavior Systems, Inc. We have been happy to share suggestions and best practices.

Impact on Technology Transfer

Nothing to report.

Impact on Society Beyond Science and Technology

Our project was designed to address the lack of research-based guidelines for assisting returning service members and at-home partners during the transition from deployment to reunion. Data identifying *why* military couples encounter reintegration difficulty, *who* is at risk, and *when* to intervene is vital for developing targeted resources to help military couples.

Our data informed five general conclusions and 17 clinical guidelines grounded in the major findings to emerge from the project thus far (see Appendix C). Our dissemination efforts moving forward will concentrate on circulating the recommendations to relevant stakeholders, in the hopes that military leadership and military family life professionals can be proactive rather than reactive in offering services (see Appendix D for an infographic for dissemination).

5. Changes/Problems

Changes in Approach and Reasons for Change

A strong theme of the in-progress review panel we attended in March 2015 was the capacity of the projects to shed light on how military families hailing from diverse backgrounds converge and/or diverge in their experiences. Although our original sample size of 250 military couples would not have permitted us to examine these issues, our recruitment procedures were so successful that we were able to double our sample to take advantage of the many military couples who claimed spots in the study in advance of reunion dates.

We submitted a request to modify our original statement of work on 3 November 2015; the request was approved on 11 February 2016. Our revised statement of work evaluated whether our hypotheses about mental health symptoms, romantic relationship characteristics, and reintegration difficulty vary by first time versus multiple deployment experience. The modified statement of work doubled the target sample size from 250 military couples (4,000 observations) to 500 military couples (8,000 observations). Our final sample contained 555 military couples.

Actual or Anticipated Problems or Delays and Actions or Plans to Resolve Them

Change in Statistical Consultant

Our original statistical consultant, Dr. Benjamin Karney from the University of California-Los Angeles, reported to us that he had less active involvement conducting the dyadic growth curve techniques required for our project than we realized. We received approval to transfer Dr. Karney's statistical consulting tasks to Dr. Jeremy Yorgason from Brigham Young University on 1 June 2016. Dr. Yorgason began consulting on the project shortly thereafter.

Change in Co-Investigator Affiliation

Dr. Lynne Knobloch-Fedders, co-investigator on the project, accepted a position as an assistant professor in the Department of Counselor Education and Counseling Psychology at Marquette University effective 14 August 2017. She left her previous position as a clinical psychologist at The Family Institute at Northwestern University effective 4 August 2017. Ms. Stacey Porter-Daly, our federal award coordinator at the University of Illinois, notified Ms. Catherine Sanchez, the contract specialist assigned to our award, of the change in a memo dated 23 May 2017. The change was approved by Ms. Sherry Apperson on 10 July 2017.

Changes that Had a Significant Impact on Expenditures

Nothing to report.

Significant Changes in Use or Care of Human Subjects

Nothing to report.

6. Products

Journal Articles

Knobloch, L. K., Knobloch-Fedders, L. M., & Yorgason, J. B. (2018). Communication of military couples during deployment predicting generalized anxiety upon reunion. *Journal of Family Psychology, 32,* 12-21. doi:10.1037/fam0000344

Acknowledgement of federal support: yes

Knobloch, L. K., Knobloch-Fedders, L. M., & Yorgason, J. B. (under review). *Mental health symptoms and the reintegration difficulty of military couples following deployment: A longitudinal application of the relational turbulence model.* Manuscript submitted for publication.

Acknowledgement of federal support: yes

Conference Papers and Presentations

Knobloch, L. K., Knobloch-Fedders, L. M., & Yorgason, J. B. (2018, July). *Interpersonal difficulty of military couples following deployment: A longitudinal application of the relational turbulence model.* Paper presented at the biennial meeting of the International Association for Relationship Research, Fort Collins, CO.

Other Presentations

Knobloch, L. K. (2015, August). *Reintegration difficulty of military couples after deployment*. Invited address, Center for Wounded Veterans in Higher Education Research Symposium, University of Illinois.

Knobloch, L. K., & Wilson, S. R. (2015, August). *Communicating effectively during transitions: Managing turbulence and dilemmas*. Webinar to the Military Families Learning Network (MFLN).

Knobloch, L. K. (2016, June). *Welcome home: Research and tips on reintegration after deployment*. Distinguished lecture, National Training Seminar, Military Child Education Coalition, Washington, DC.

Knobloch, L. K. (2017, March). *Welcome home: Communication and relational turbulence among military couples after deployment*. Colloquium presentation, Department of Communication, University at Buffalo.

Knobloch, L. K. (2017, July). *Communication dynamics within military and veteran families*. Webinar to the U.S. Department of Veteran Affairs Caregiver Support Program (VACO).

Knobloch, L. K., & Knobloch-Fedders, L. M. (2017, September). *Reintegration difficulty of military couples following deployment*. Briefing, Military Family Support Research Team of the Office of the Deputy Assistant Secretary of Defense for Military Community and Family Policy, Washington, DC.

Knobloch-Fedders, L. M. (2017, September). *The reintegration of military couples following deployment: Mental health and relationship adjustment over time.* Colloquium presentation, Department of Counselor Education and Counseling Psychology, Marquette University, Milwaukee, WI.

Knobloch, L. K. (2017, October). *Communication among military couples after deployment*. Guest lecture, Department of Communication, University of Wisconsin-Milwaukee.

Knobloch-Fedders, L. M. (2017, December). *Reintegration process of military couples after deployment: Mental health and relationship adjustment over time*. Grand rounds presentation, Captain James A. Lovell Federal Health Care Center, North Chicago, IL.

Knobloch, L. K. (2018, March). *Relational turbulence and mental health within military families*. Keynote address, Social and Emotional Dimensions of Well-Being Initiative, Beckman Institute at the University of Illinois.

Knobloch, L. K. (2018, April). *Relational turbulence among military couples during the transition from deployment to reunion.* Invited address, Military Family Research Institute at Purdue University.

Knobloch, L. K. (2018, July). *Navigating the new normal: Reintegration after deployment*. Distinguished lecture, National Training Seminar, Military Child Education Coalition, Washington, DC.

Websites

http://publish.illinois.edu/military-couples-study/ - Study website designed to attract, recruit, and retain participants. Central clearinghouse for press coverage of research and scholarly publications.

https://www.facebook.com/military.couples.study - Facebook page for the study.

https://twitter.com/search?q=study of military couples after deployment/ - Twitter account for the study.

https://www.linkedin.com/pub/leanne-knobloch/a4/323/ab9 - LinkedIn account for the study.

Technologies or Techniques

Nothing to report.

Inventions, Patent Applications, and/or Licenses

Nothing to report.

Other Products

Clinical guidelines based on the project's findings are included in Appendix C.

An infographic for dissemination of results is included in Appendix D.

7. Participants and Other Collaborating Organizations

Individuals who Have Worked on the Project at the University of Illinois

Name	Role	Dates	Contribution
Leanne Knobloch, Ph.D.	PI	July 2014-June 2018	PI
Bryan Abendschein, M. A.	Graduate RA	Aug 2014-May 2017	Recruitment & Data Management
Erin Basinger, M.A.	Graduate RA	Aug 2014-May 2016	Team Supervision
Kelly McAninch, M.A.	Graduate RA	Aug 2014-May 2015	Recruitment and Retention
James Kale Monk, M.A.	Graduate RA	Aug 2015-May 2017	Data Management & Outreach
Erin Wehrman, M.A.	Graduate RA	Aug 2014-May 2017	Recruitment & Data Management
Daniel Byrne	Undergraduate RA (*unpaid*)	Aug 2014-May 2016	Recruitment and E-Gift Cards
Hallie Davis	Undergraduate RA (*unpaid*)	Aug 2014-May 2015	Recruitment and Press Releases
Dale Erdmier	Undergraduate RA (*unpaid*)	Aug 2014-May 2015	Database Management
Laura Saldivar	Undergraduate RA (*unpaid*)	Aug 2014-Dec 2015	Website and Social Media
Sylvie Zhaung	Undergraduate RA (*unpaid*)	Aug 2014-May 2015	Tracking Returning Units
Danielle Callahan	Undergraduate RA (*unpaid*)	Jan 2016-May 2016	Data Cleaning & Coding
Brittany Gibson	Undergraduate RA (*unpaid*)	Aug 2015-May 2016	Data Cleaning & Coding
Chong (Jessica) Lee	Undergraduate RA (*unpaid*)	Aug 2015-Dec 2015	Data Cleaning & Coding
Kaitlyn Nead	Undergraduate RA (*unpaid*)	Aug 2015-May 2016	Data Cleaning & Coding
Jordan Niezelski	Undergraduate RA (*unpaid*)	Jan 2016-Dec 2016	Data Cleaning & Coding
Claudia Szczepaniak	Undergraduate RA (*unpaid*)	Aug 2015-May 2016	Data Cleaning & Coding
Vanida Vesuntia	Undergraduate RA (*unpaid*)	Jan 2016-May 2016	Data Cleaning & Coding
Keegan Gaspari	Undergraduate RA (*unpaid*)	Jan 2016-Dec 2016	Data Cleaning & Coding

David Michael Kempe	Undergraduate RA (*unpaid*)	Aug 2016-Dec 2016	Data Management & Outreach
Konrad Lazarski	Undergraduate RA (*unpaid*)	Aug 2016-Dec 2016	Data Management & Outreach
Namah Vyakarnam	Undergraduate RA (*unpaid*)	Aug 2016-Dec 2016	Data Management & Outreach

Individuals who Have Worked on the Project at Northwestern University

Name	Role	Dates	Contribution
Lynne Knobloch-Fedders, Ph.D.	Co-I	July 2014-June 2018	Co-I
Hannah Fiore	Undergraduate RA (*unpaid*)	Aug 2015-May 2017	Data Cleaning & Coding
Samantha Scott	Undergraduate RA (*unpaid*)	Aug 2015-May 2017	Data Cleaning & Coding
Jacqueline Wong	Undergraduate RA (*unpaid*)	Jan 2016-May 2016	Coding
Daphne Liu	Undergraduate RA (*unpaid*)	Jan 2016-May 2016	Coding
Alexis Meade	Graduate RA (*unpaid*)	Jan 2016-May 2016	Coding
Alexandra Maynard	Graduate RA (*unpaid*)	Jan 2016-May 2016	Coding
Karl Briedrick	Graduate RA (*unpaid*)	Jan 2016-May 2016	Coding
Kathleen Pell-King	Graduate RA (*unpaid*)	Jan 2016-May 2016	Coding
Kaitlyn Bellingar	Graduate RA (*unpaid*)	Jan 2016-May 2016	Coding
Chrishane Cunningham	Graduate RA (*unpaid*)	Jan 2016-May 2016	Coding
Vanida Vesundia	Graduate RA (*unpaid*)	Aug 2016-Dec 2016	Data Cleaning & Coding

Individuals who Have Worked on the Project at Brigham Young University

Name	Role	Dates	Contribution
Jeremy Yorgason, Ph.D.	Statistical Consultant	June 2016-June 2018	Data Analysis

Change in Support of Key Personnel

Change in Statistical Consultant

Our original statistical consultant, Dr. Benjamin Karney from the University of California-Los Angeles, reported to us that he had less active involvement conducting the dyadic growth curve techniques required for our project than we realized. We received approval to transfer Dr. Karney's statistical consulting tasks to Dr. Jeremy Yorgason from Brigham Young University on 1 June 2016. Dr. Yorgason began consulting on the project shortly thereafter.

Change in Co-investigator Affiliation

Dr. Lynne Knobloch-Fedders, co-investigator on the project, accepted a position as an assistant professor in the Department of Counselor Education and Counseling Psychology at Marquette University effective 14 August 2017. She left her previous position as a clinical psychologist at The Family Institute at Northwestern University effective 4 August 2017. Ms. Stacey Porter-Daly, our federal award coordinator at the University of Illinois, notified Ms. Catherine Sanchez, the contract specialist assigned to our award, of the change in a memo dated 23 May 2017. The change was approved by Ms. Sherry Apperson on 10 July 2017.

Partner Organizations

University of Illinois – Urbana, IL

Contributions: (a) financial support (including conference travel), (b) in-kind support (including office supplies, computers, software, printers, Internet access, telephone, and fax), (c) facilities (including office space and meeting rooms), and (d) personnel (including administrative support staff, human resource management, and undergraduate and graduate research assistants).

The Family Institute at Northwestern University – Evanston, IL

Contributions: (a) in-kind support (including office supplies, computers, software, printers, Internet access, telephone, and fax), (b) facilities (including office space and meeting rooms), and (c) personnel (including administrative support staff, human resource management, and undergraduate and graduate research assistants).

Marquette University – Milwaukee, WI

Contributions: (a) in-kind support (including office supplies, computers, software, printers, Internet access, telephone, and fax), (b) facilities (including office space and meeting rooms), and (c) personnel (including administrative support staff and human resource management).

Brigham Young University – Provo, UT

Contributions: (a) in-kind support (including office supplies, computers, software, printers, Internet access, telephone, and fax), (b) facilities (including office space and meeting rooms), and (c) personnel (including administrative support staff and human resource management).

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Knobloch, L. K., Knobloch-Fedders, L. M., & Yorgason, J. B. (under review). *Mental health symptoms and the reintegration difficulty of military couples following deployment: A longitudinal application of the relational turbulence model.* Manuscript submitted for publication.

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8. Special Reporting Requirements: Quad Chart

"Reintegration Difficulty of Military Couples Following Deployment"

USAMRMC Log No. 12154004

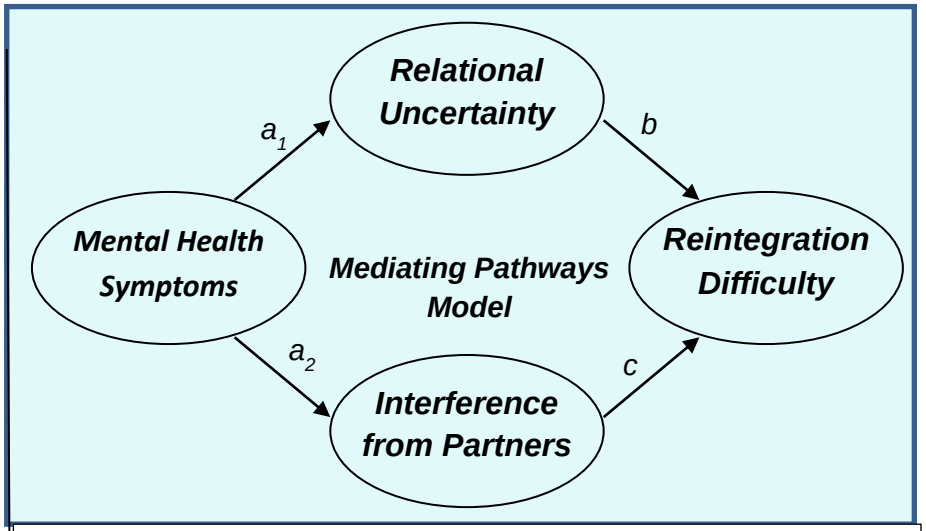
PI: Leanne K. Knobloch **Org:** University of Illinois **Award Amount:** $834,061

Study Aims

- Test the mechanisms of relational turbulence as ***independent predictors*** of the reintegration difficulty of returning service members and at-home partners.
- Test relational uncertainty and interference from partners as ***mediating pathways*** linking mental health symptoms to the reintegration difficulty of returning service members and at-home partners.
- Test relational uncertainty and interference from partners as ***moderating debilitative factors*** of the associations that mental health symptoms share with the reintegration difficulty of returning service members and at-home partners.

Approach

This project evaluates how people's mental health symptoms and romantic relationship characteristics predict their difficulty with reintegration. Online survey data were collected from 555 military couples once per month for 8 consecutive months upon reunion.



The goal of this project is to examine how mental health symptoms, relational uncertainty, and interference from partners predict reintegration difficulty following deployment. The mediating pathways model is one of three models to be tested.

Timeline and Cost

Activities / Year	1	2	3	4
Preparation for Data Collection				
Recruitment & Data Collection				
Data Analysis & Dissemination				
Estimated Budget ($K)	**210,405**	**253,895**	**224,354**	**145,407**

Updated: 08/01/2018

Study Milestones

Year 1 Goals – Preparation for Data Collection
- ☑ Seek IRB approval
- ☑ Solicit military family life contacts for advertising

Year 2 and Year 3 Goals – Recruitment and Data Collection
- ☑ Identify returning military units
- ☑ Advertise through online and newspaper channels
- ☑ Enroll military couples
- ☑ Manage data collection, retention, & e-card distribution

Year 4 Goals – Data Analysis and Dissemination
- ☑ Analyze data
- ☑ Disseminate results
- ☑ Identify empirically-based guidelines for clinical application

Comments/Challenges/Issues/Concerns *(none)*

Budget Expenditure to Date

Projected Expenditure: $834,061

Actual Expenditure: $834,061

Table 1

Paired Samples T Tests Comparing Returning Service Members and At-Home Partners at Wave 1

	Returning Service Members		At-Home Partners		
	M	(*SD*)	*M*	(*SD*)	*t* (554)
Combat Exposure	0.54	(0.64)	0.48	(0.64)	2.97 **
Relationship Satisfaction	17.27	(3.08)	17.12	(3.54)	0.94
Depressive Symptoms	10.16	(11.36)	13.52	(14.13)	-4.90 ***
Anxiety Symptoms	5.00	(8.35)	8.59	(11.61)	-6.59 ***
Posttraumatic Stress Symptoms	24.21	(10.15)	27.59	(12.63)	-5.45 ***
Reunion Uncertainty	2.02	(0.98)	2.16	(1.09)	-2.85 **
Reintegration Interference	2.18	(0.90)	2.20	(0.87)	-0.36
Difficulty with Reintegration	2.46	(1.31)	2.63	(1.31)	-2.80 **
Reunion Relationship Challenges	2.62	(1.30)	2.81	(1.30)	-3.20 **

N = 555 military couples.

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

Table 2

Bivariate Correlations at Wave 1

	V1	V2	V3	V4	V5	V6	V7	V8	V9
V1: Combat Exposure	.75 ***	-.10 *	.12 **	.14 **	.25 ***	.11 *	.06	.08	.08
V2: Relationship Satisfaction	-.04	.37 ***	-.22 ***	-.23 ***	-.19 ***	-.61 ***	-.42 ***	-.45 ***	-.51 ***
V3: Depressive Symptoms	.07	-.33 ***	.20 ***	.65 ***	.68 ***	.37 ***	.28 ***	.36 ***	.38 ***
V4: Anxiety Symptoms	.06	-.18 ***	.64 ***	.20 ***	.70 ***	.29 ***	.21 ***	.32 ***	.34 ***
V5: Posttraumatic Stress Symptoms	.05	-.30 ***	.73 ***	.73 ***	.19 ***	.28 ***	.20 ***	.33 ***	.34 ***
V6: Reunion Uncertainty	.05	-.60 ***	.44 ***	.23 ***	.37 ***	.33 ***	.49 ***	.63 ***	.69 ***
V7: Reintegration Interference	.05	-.50 ***	.42 ***	.30 ***	.44 ***	.55 ***	.20 ***	.63 ***	.65 ***
V8: Difficulty with Reintegration	.09 *	-.50 ***	.52 ***	.35 ***	.47 ***	.70 ***	.64 ***	.37 ***	.82 ***
V9: Reunion Relationship Challenges	.09 *	-.56 ***	.49 ***	.32 ***	.45 ***	.72 ***	.63 ***	.80 ***	.43 ***

Note. $N = 555$ returning service members, at-home partners, or military couples. Wave 1 bivariate correlations for returning service members appear above the diagonal, Wave 1 bivariate correlations for at-home partners appear below the diagonal, and Wave 1 within-couple correlations appear on the diagonal and are underlined.

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

Table 3

Growth Parameters for the Unconditional Models Predicting Difficulty with Reintegration and Reunion Relationship Challenges

	Difficulty with Reintegration				Reunion Relationship Challenges			
	Returning Service Members		At-Home Partners		Returning Service Members		At-Home Partners	
	Estimate	Variance	Estimate	Variance	Estimate	Variance	Estimate	Variance
Intercept	1.55 ***	1.15 ***	1.77 ***	1.37 ***	1.75 ***	1.24 ***	1.99 ***	1.31 ***
Linear Slope	-0.02 **	0.02 ***	-0.04 ***	0.02 ***	0.08 **	0.02 ***	0.13 ***	0.02 ***
Quadratic Slope	---	---	---	---	-0.01 ***	---	-0.02 ***	---
r of Intercept and Slope	-0.27 ***	---	-0.26 ***	---	-0.27***	---	-0.14 *	---
Within-Couple Correlations	Estimate				Estimate			
Intercepts	0.49 ***				0.54 ***			
Slopes	0.49 ***				0.48 ***			

Note. $N = 555$ military couples. Model fit for difficulty with reintegration: $\chi^2(112) = 366.379$, CFI = .961, RMSEA = .064 [90% CI = .057 to .071]. Model fit for reunion relationship challenges: χ^2 (114) = 343.578, CFI = .960, RMSEA = .060 [90% CI = .053 to = .068].

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

Table 4

Standardized Coefficients for the Preliminary Conditional Models Predicting Difficulty with Reintegration

	Model 1: Depressive Symptoms		Model 2: Anxiety Symptoms		Model 3: Posttraumatic Stress Symptoms		Model 4: Reunion Uncertainty		Model 5: Reintegration Interference	
	RSM	AHP	RSM	AHP	RSM	AHP	RSM	AHP	RSM	AHP
Actor Predictor of Intercepts	.36***	.48***	.33***	.32***	.35***	.41***	.63***	.67***	.54***	.53***
Actor Predictor of Slopes	-.08	-.16*	-.14*	-.01	-.14*	-.09	-.33***	-.39***	-.21**	-.27***
Partner Predictor of Intercepts	.10*	.08*	.05	.09*	.07	.09*	.15**	.17***	.08*	.08
Partner Predictor of Slopes	.06	-.02	.11	-.02	.03	-.03	-.02	-.09	-.17*	.06
R^2 intercept/slope	.43/.13	.52/.17	.40/.14	.42/.15	.42/.14	.48/.16	.56/.19	.63/.25	.54/.18	.53/.20

Note. N = 555 military couples. RSM = returning service member, AHP = at-home partner. Each model included one substantive predictor, two core covariates, and 18 secondary covariates. Fit indices were as follows: (a) Model 1: χ^2 (450) = 780.70, CFI = .95, RMSEA = .04 [90% CI = .03 to .04]; (b) Model 2: χ^2 (450) = 753.25, CFI = .95, RMSEA = .04 [90% CI = .03 to .04]; (c) Model 3: χ^2 (450) = 763.23, CFI = .95, RMSEA = .04 [90% CI = .03 to .04]; (d) Model 4: χ^2 (450) = 827.25, CFI = .94, RMSEA = .04 [90% CI = .04 to .04]; and (e) Model 5: χ^2 (450) = 862.20, CFI = .94, RMSEA = .04 [90% CI = .04 to .05].

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

Table 5

Standardized Coefficients for the Preliminary Conditional Models Predicting Reunion Relationship Challenges

	Model 1: Depressive Symptoms		Model 2: Anxiety Symptoms		Model 3: Posttraumatic Stress Symptoms		Model 4: Reunion Uncertainty		Model 5: Reintegration Interference	
	RSM	AHP	RSM	AHP	RSM	AHP	RSM	AHP	RSM	AHP
Actor Predictor of Intercepts	.35***	.43***	.31***	.30***	.32***	.39***	.63***	.63***	.52***	.49***
Actor Predictor of Slopes	-.08	-.06	-.10	.03	-.15*	-.07	-.35***	-.37***	-.26***	-.26***
Partner Predictor of Intercepts	.10*	.07	.06	.12**	.05	.05	.15**	.14**	.09*	.09*
Partner Predictor of Slopes	.07	.01	.08	-.07	.08	.00	.03	.01	-.12	.02
R^2 intercept/slope	.49/.17	.58/.11	.45/.17	.52/.11	.45/.18	.55/.11	.63/.23	.69/.18	.59/.23	.61/.15

Note. N = 555 military couples. RSM = returning service member, AHP = at-home partner. Each model included one substantive predictor, two core covariates, and 18 secondary covariates. Fit indices were as follows: (a) Model 1: χ^2 (448) = 822.43, CFI = .94, RMSEA = .04 [90% CI = .04 to .04]; (b) Model 2: χ^2 (448) = 801.74, CFI = .95, RMSEA = .04 [90% CI = .03 to .04]; (c) Model 3: χ^2 (448) = 802.70, CFI = .95, RMSEA = .04 [90% CI = .03 to .04]; (d) Model 4: χ^2 (448) = 878.46, CFI = .94, RMSEA = .04 [90% CI = .04 to .05]; and (e) Model 5: χ^2 (448) = 879.11, CFI = .94, RMSEA = .04 [90% CI = .04 to .05].

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

Table 6

Standardized Coefficients for the Final Conditional Models

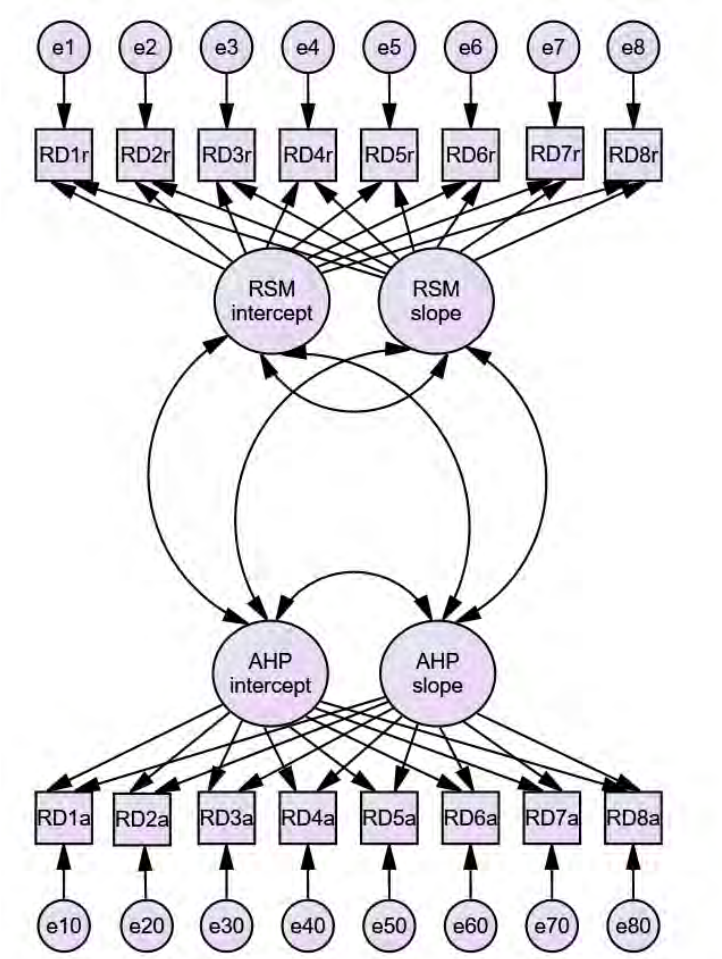
	Model Predicting Difficulty with Reintegration		Model Predicting Reunion Relationship Challenges	
	RSM	AHP	RSM	AHP
Actor Predictors of Intercepts				
Depressive Symptoms	.03	.19***	.05	.14**
Anxiety Symptoms	.09	.01	.08	.04
Posttraumatic Stress Symptoms	.15**	.08	.10*	.07
Reunion Uncertainty	.42***	.46***	.43***	.44***
Reintegration Interference	.39***	.28***	.35***	.26***
Actor Predictors of Slopes				
Depressive Symptoms	.14	-.09	.15	.06
Anxiety Symptoms	-.06	.13	.01	.12
Posttraumatic Stress Symptoms	-.13	.00	-.17*	-.06
Reunion Uncertainty	-.28***	-.32***	-.29***	-.32***
Reintegration Interference	-.14*	-.16*	-.21**	-.18*
R^2 intercept/slope	.73/.26	.76/.27	.77/.29	.80/.21

Note. N = 555 military couples. RSM = returning service member, AHP = at-home partner. The models included all of the substantive predictors and covariates. Statistically significant partner effects are reported in the text. Model fit for difficulty with reintegration: $\chi^2(546) = 1014.28$, CFI = .93, RMSEA = .04 [90% CI = .04 to .04]. Model fit for reunion relationship challenges: $\chi^2(544) = 1049.49$, CFI = .93, RMSEA = .04 [90% CI = .04 to .05].

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

Figure 1

Unconditional Dyadic Growth Curve Model



Note. RSM = returning service member, AHP = at-home partner. For the sake of parsimony, the diagram omits the residual correlations across returning service members and at-home partners.

Figure 2

Observed Means across Eight Months of the Post-Deployment Transition

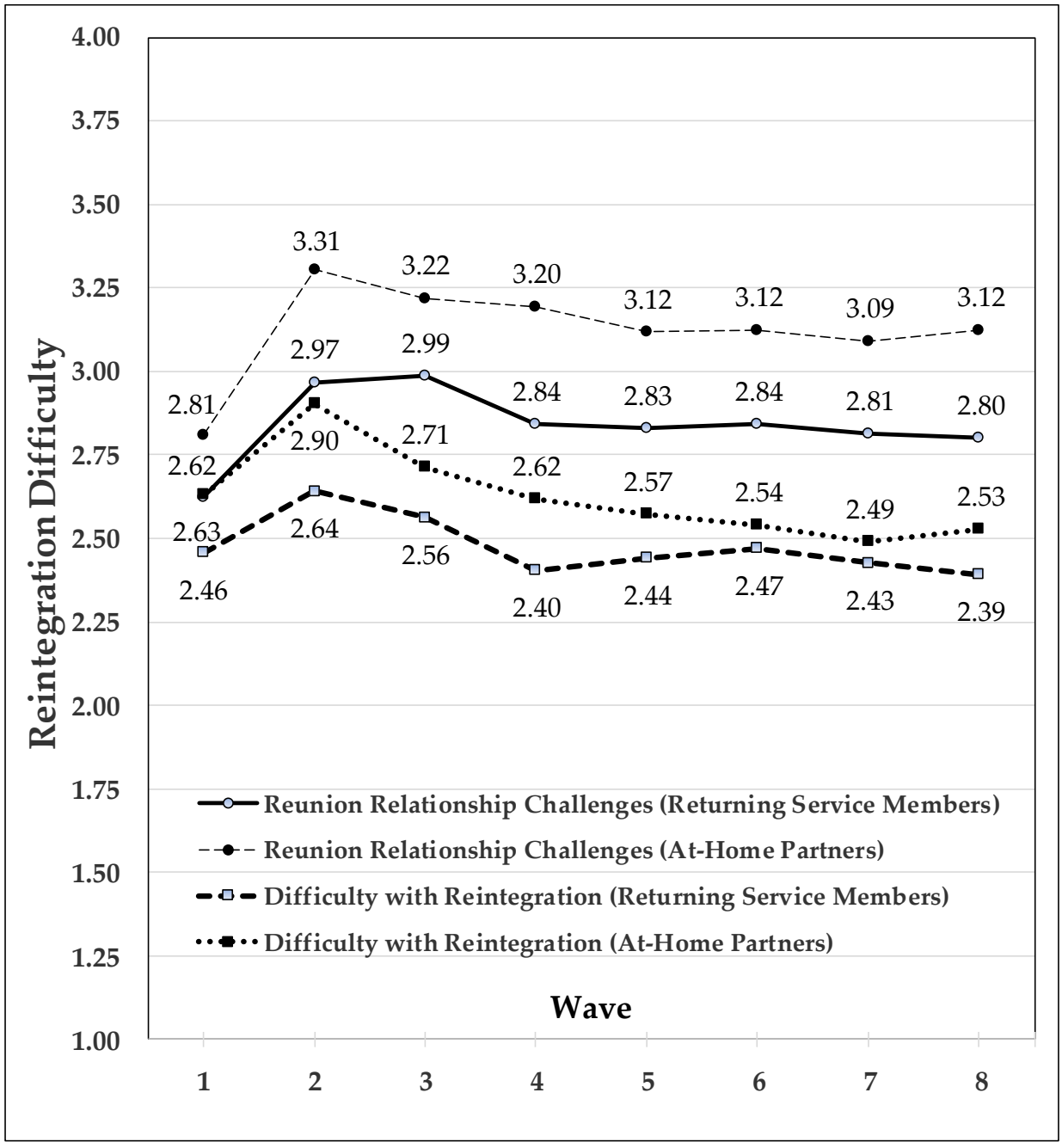
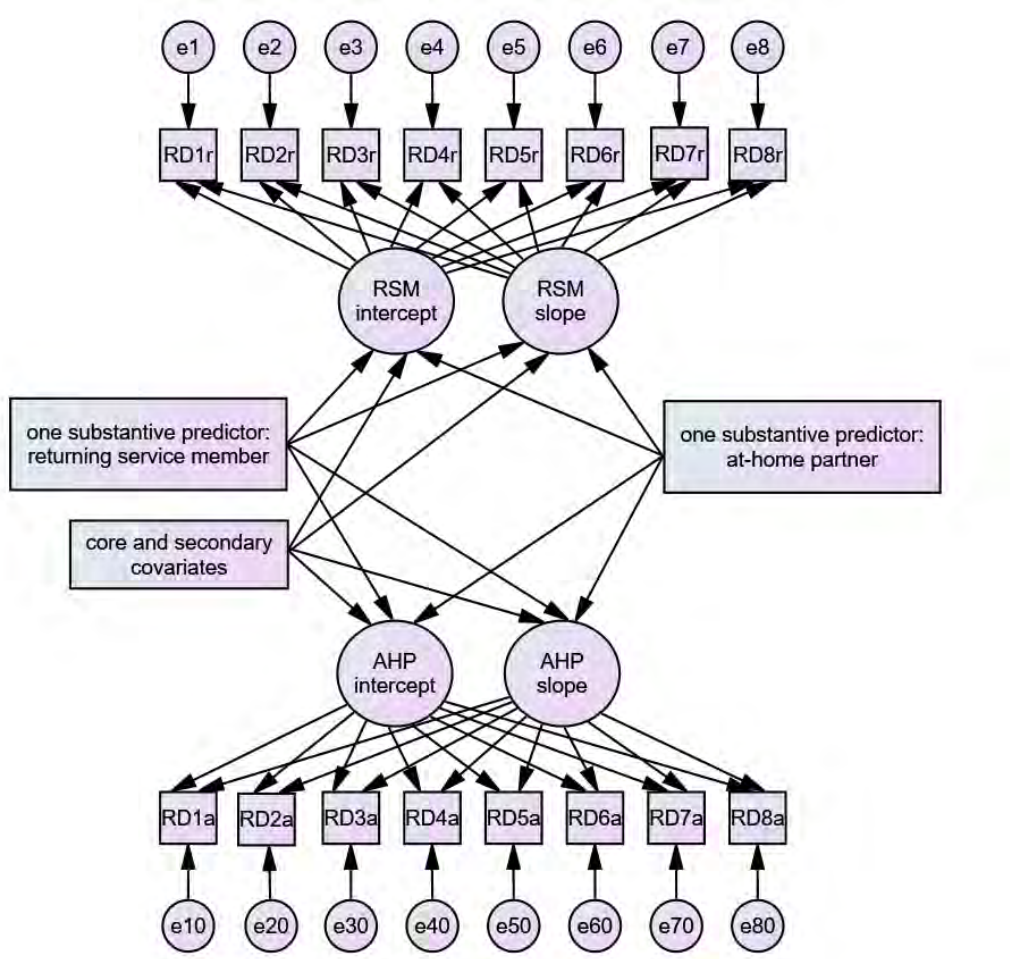


Figure 3

Preliminary Conditional Dyadic Growth Curve Model

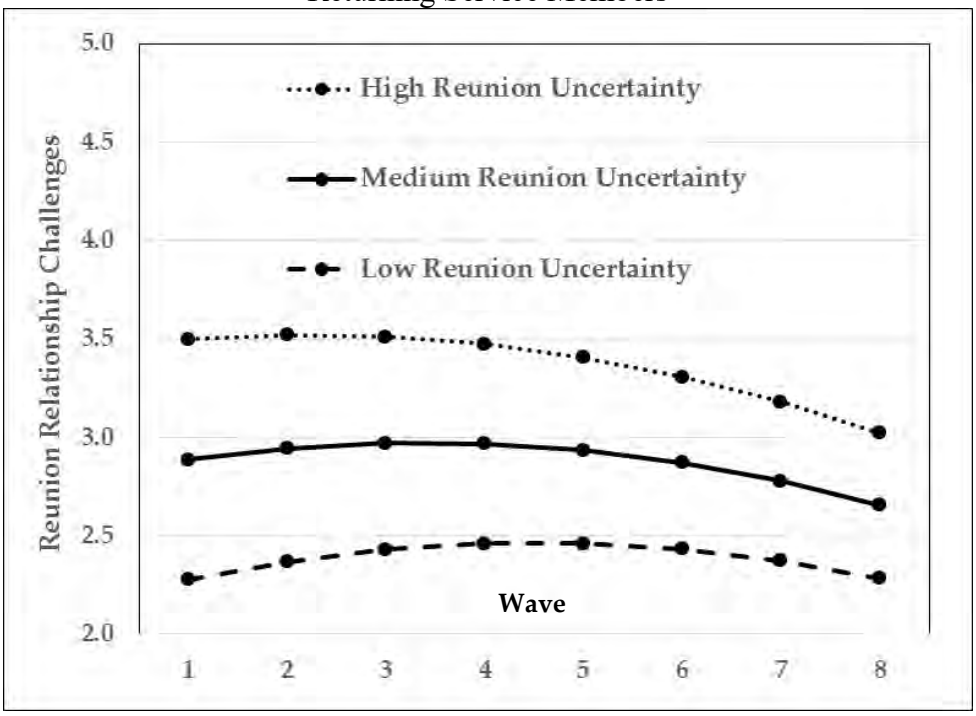


Note. RSM = returning member, AHP = at-home partner. The analysis included one substantive predictor, two core covariates, and 18 secondary covariates. For the sake of parsimony, the diagram omits the latent variable residuals and residual correlations.

Figure 4

Predicted Trajectories of Reunion Relationship Challenges at Three Levels of Reunion Uncertainty

Returning Service Members



At-Home Partners

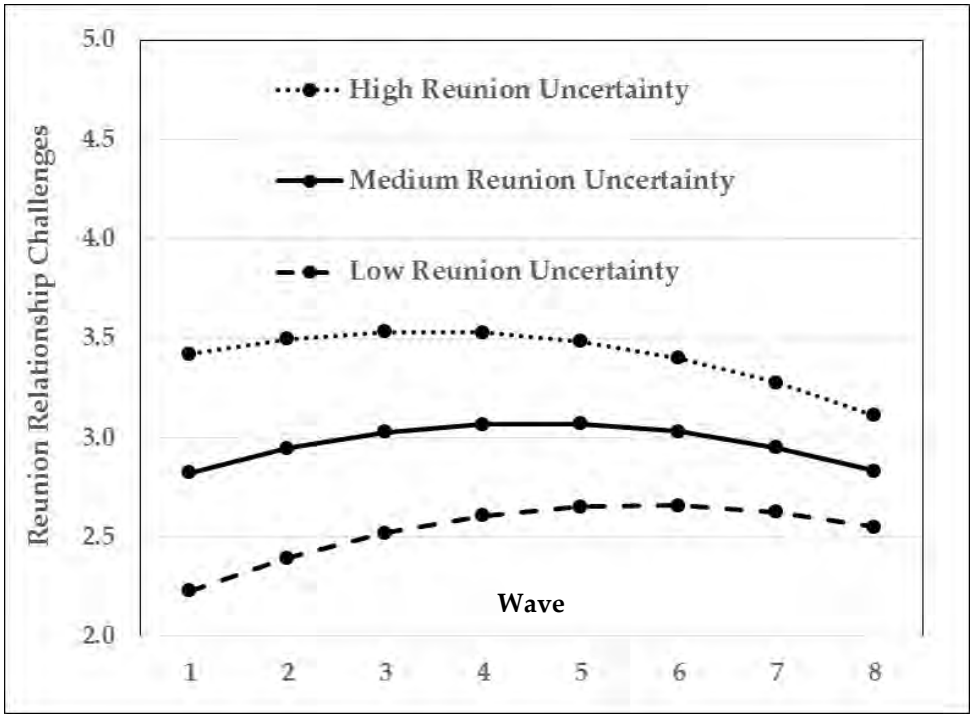
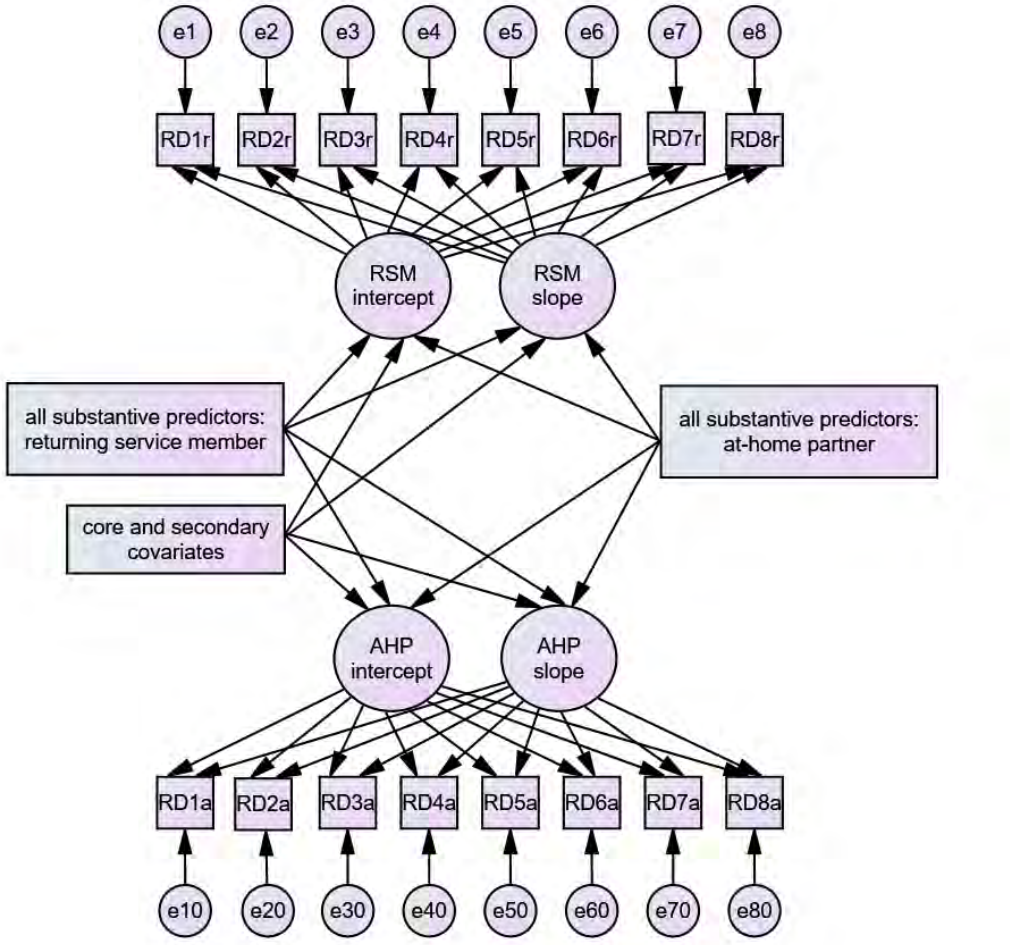


Figure 5

Final Conditional Growth Curve Model



Note. RSM = returning service member, AHP = at-home partner. The analysis included five independent variables, two core covariates, and 18 secondary covariates. For the sake of parsimony, the diagram omits the latent variable residuals and residual correlations.

Figure 6

Indirect Associations of Mental Health Symptoms through Reunion Uncertainty and Reintegration Interference from a Partner Predicting Difficulty with Reintegration

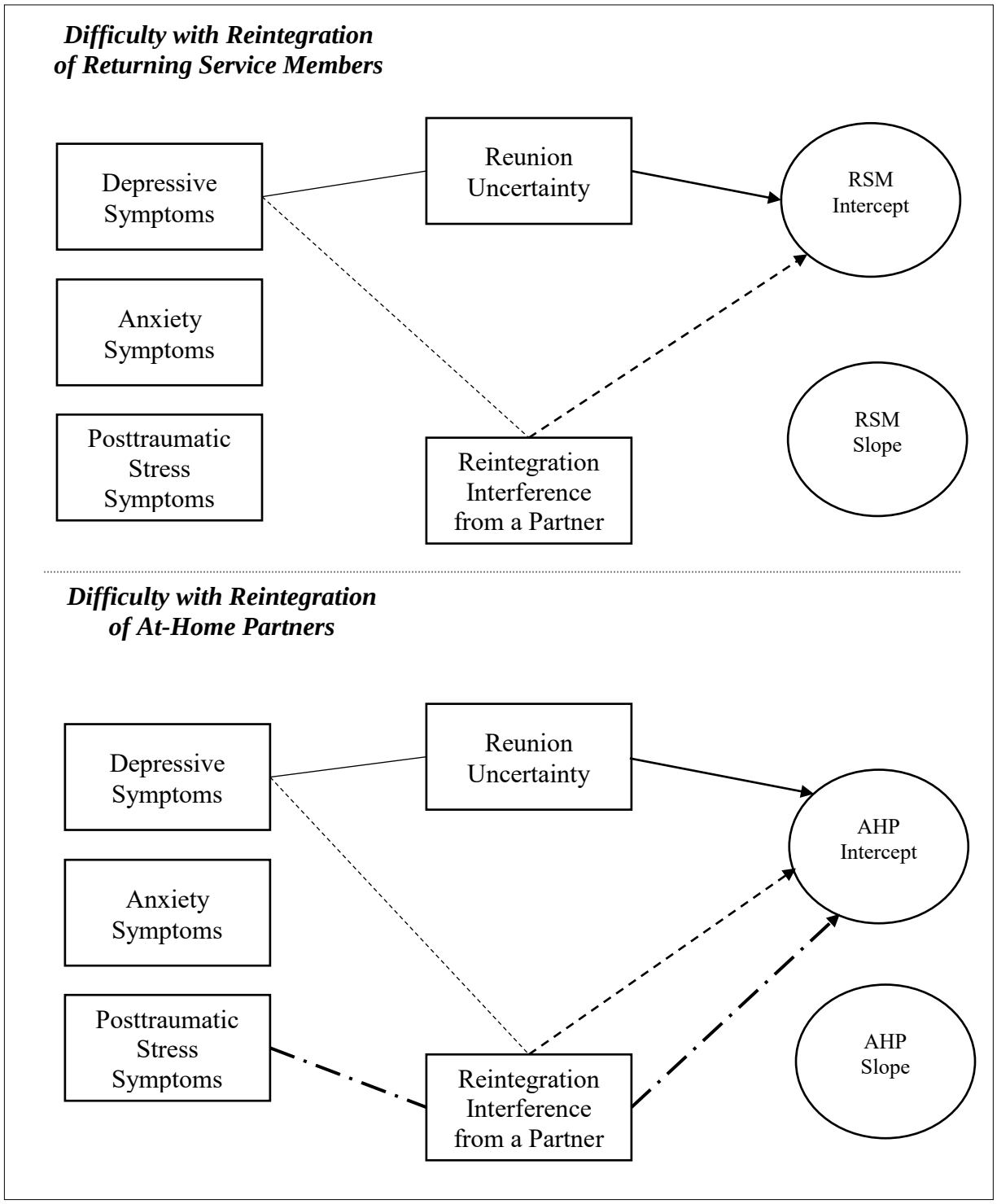


Figure 7

Indirect Associations of Mental Health Symptoms through Reunion Uncertainty and Reintegration Interference from a Partner Predicting Reunion Relationship Challenges

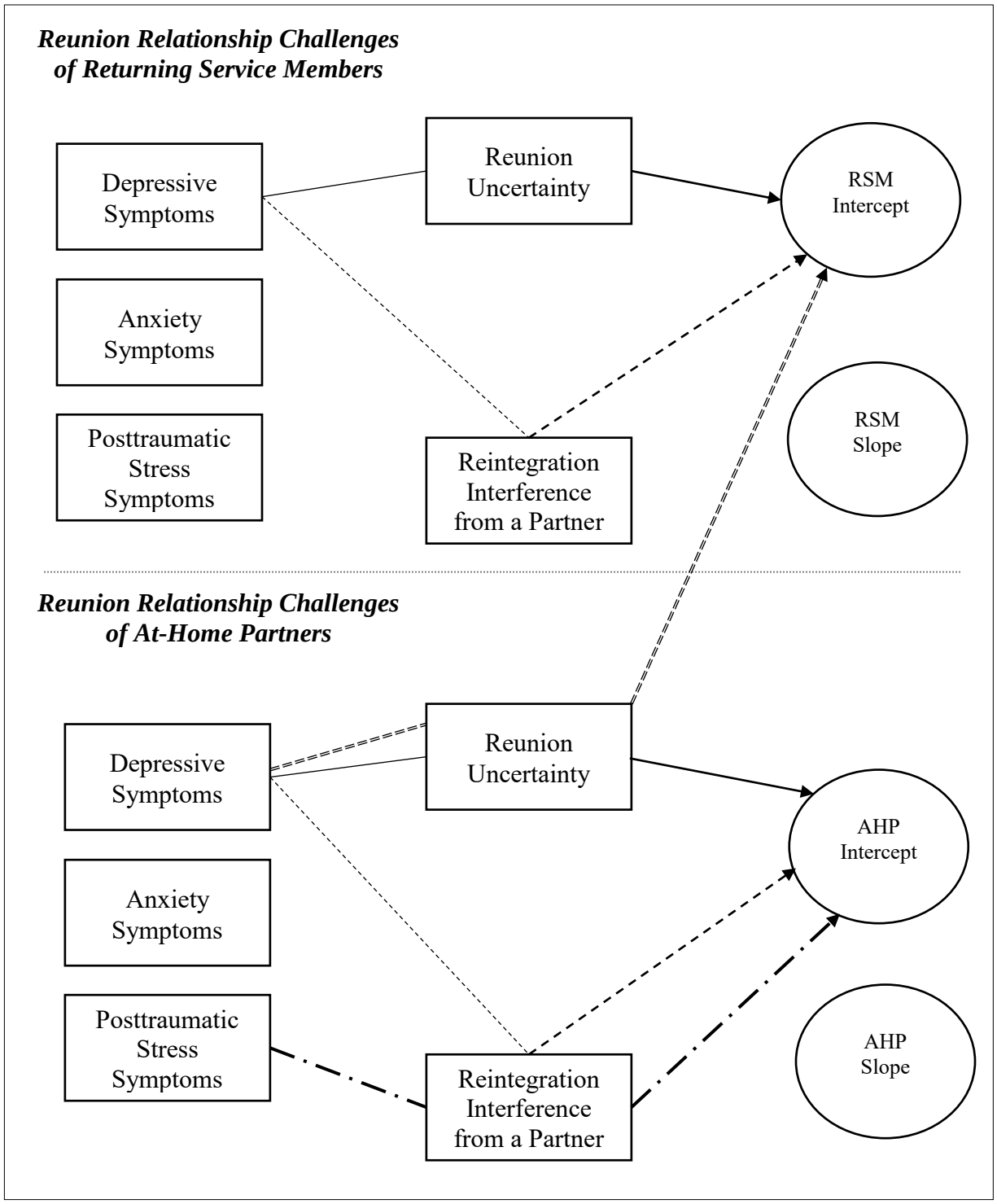
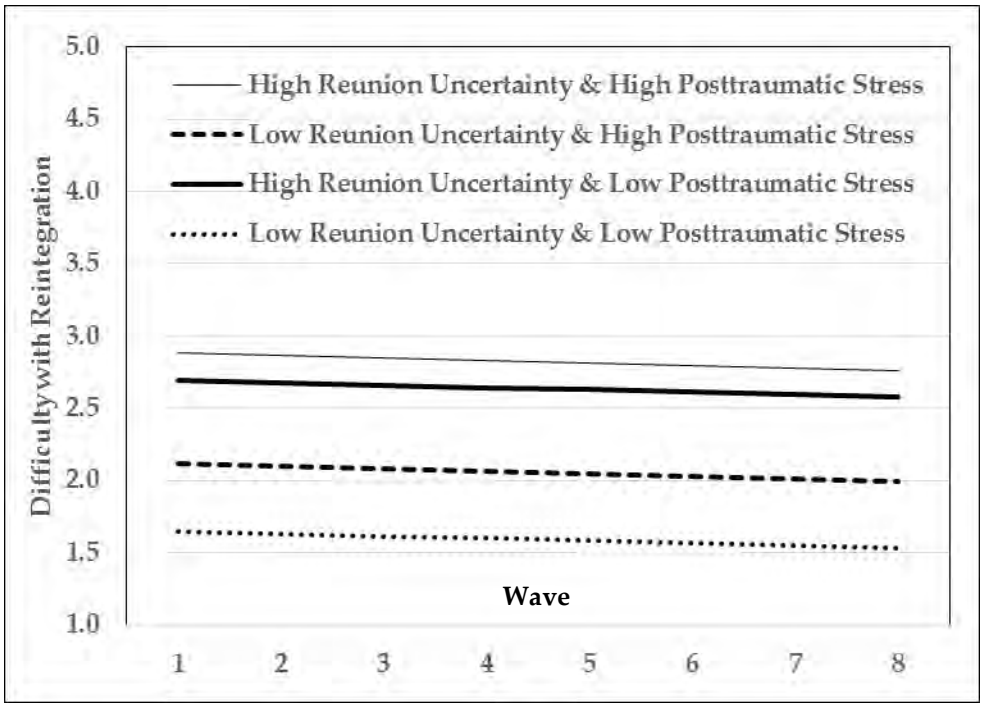


Figure 8

Examples of Moderation of the Intercepts

Actor Effect Predicting Intercept of Difficulty with Reintegration for Returning Service Members



Partner Effect Predicting Intercept of Reunion Relationship Challenges for Returning Service Members

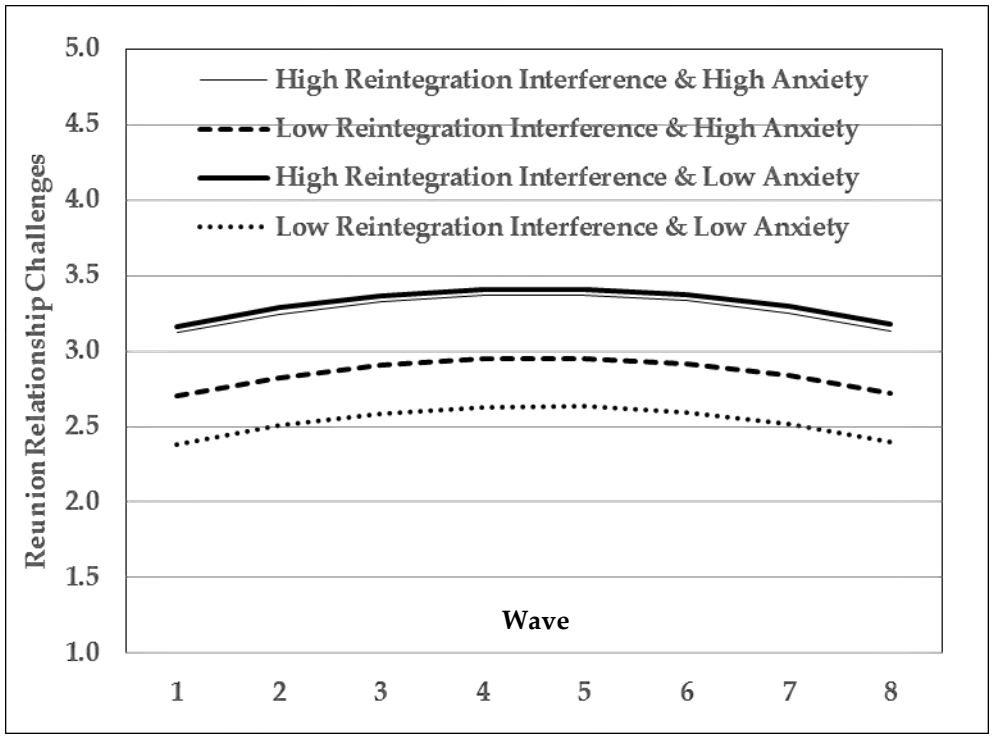
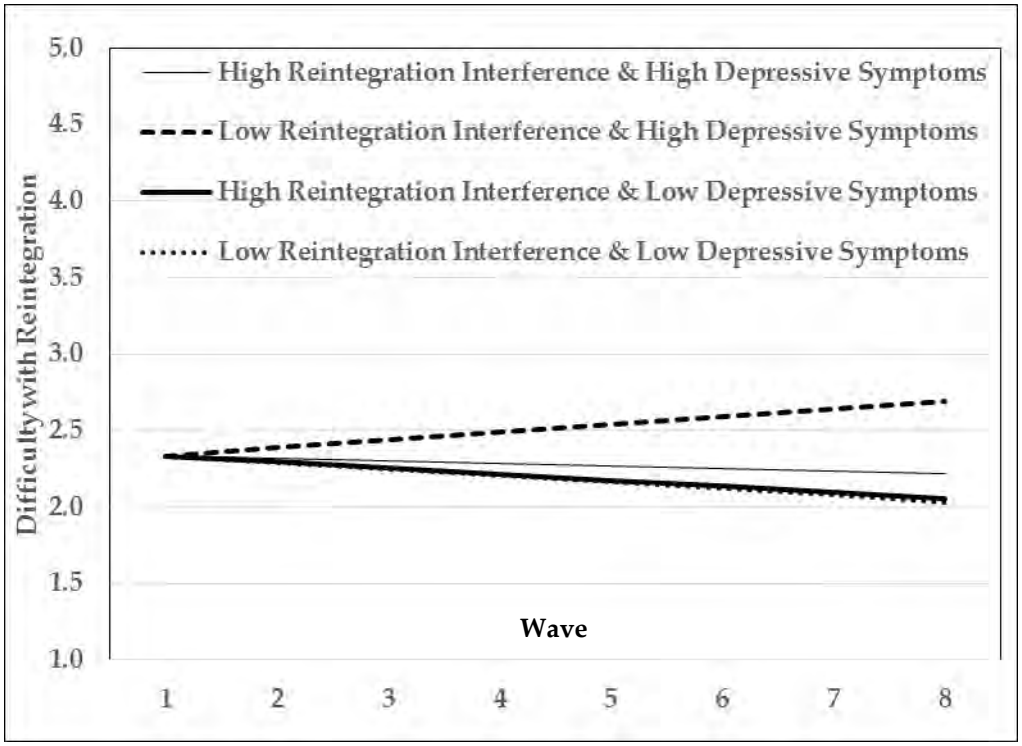


Figure 9

Examples of Moderation of the Slopes

Actor Effect Predicting Slope of Difficulty with Reintegration
for Returning Service Members



Actor Effect Predicting Slope of Reunion Relationship Challenges
for Returning Service Members

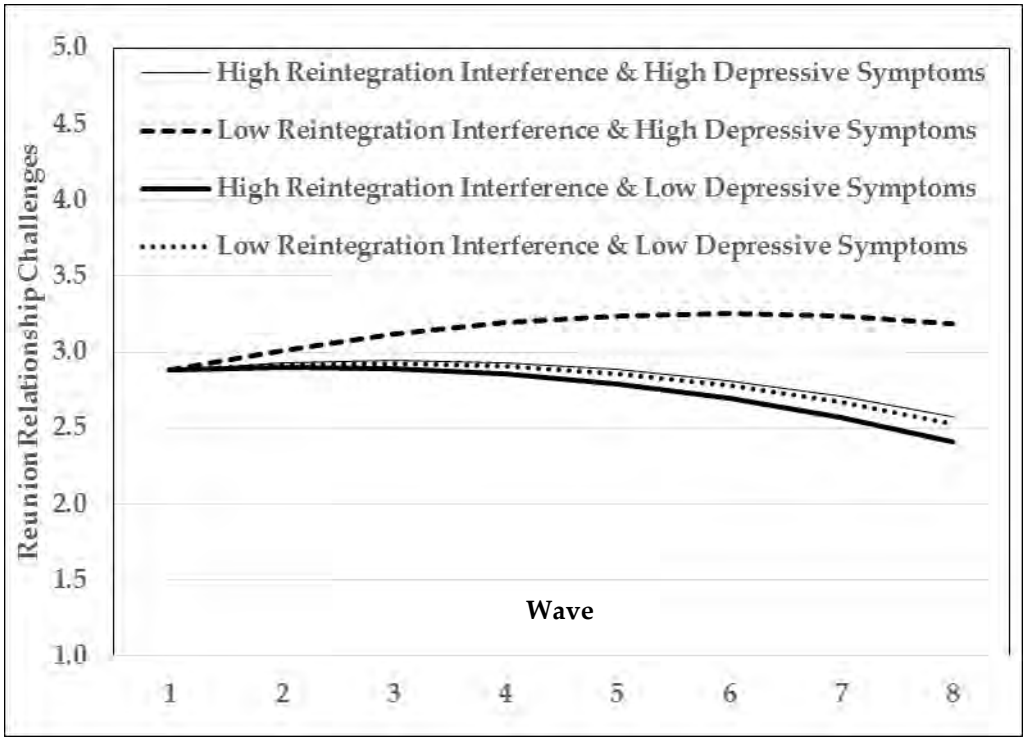
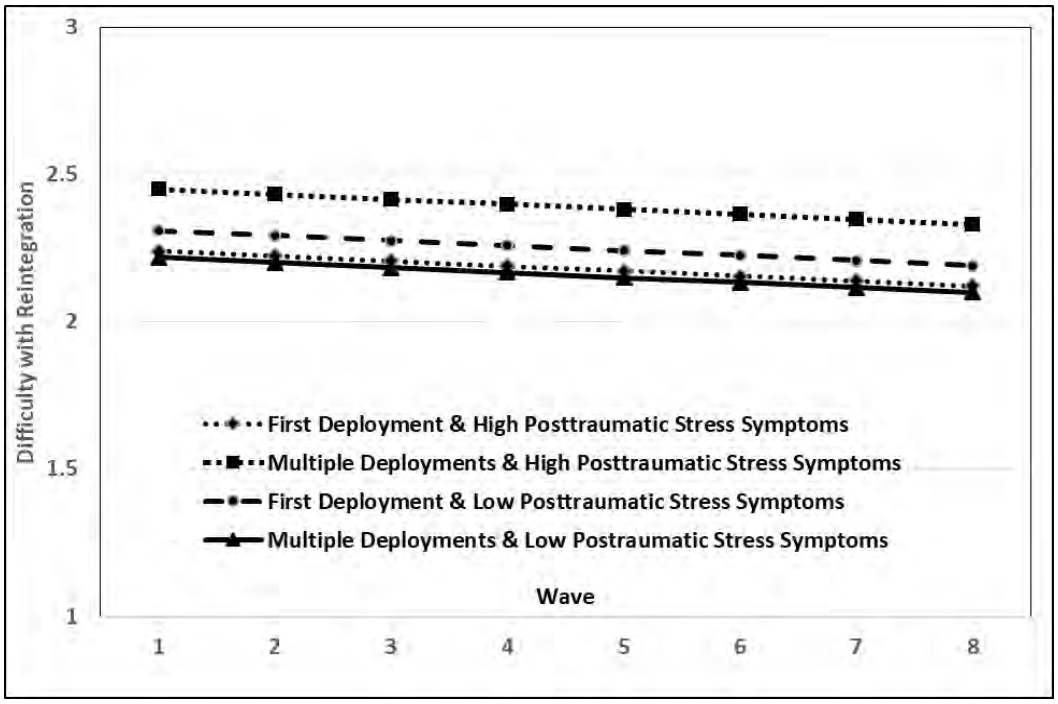


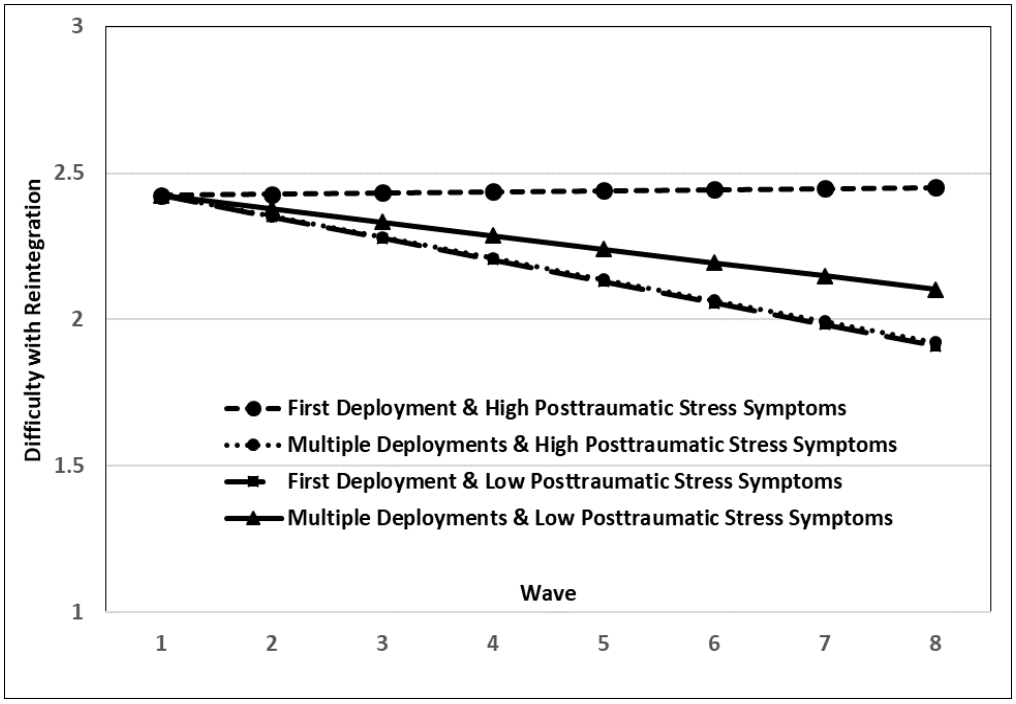
Figure 10

Examples of Deployment Experience Moderation for At-Home Partners

Actor Effect Predicting Intercept of Difficulty with Reintegration for At-Home Partners



Actor Effect Predicting Slope of Difficulty with Reintegration for At-Home Partners



9. Appendices

A. Knobloch, L. K., Knobloch-Fedders, L. M., & Yorgason, J. B. (2018). Communication of military couples during deployment predicting generalized anxiety upon reunion. *Journal of Family Psychology, 32,* 12-21.

B. Knobloch, L. K., Knobloch-Fedders, L. M., & Yorgason, J. B. (under review). *Mental health symptoms and the reintegration difficulty of military couples following deployment: A longitudinal application of the relational turbulence model.* Manuscript submitted for publication.

C. Clinical guidelines

D. Infographic for dissemination

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Communication of Military Couples During Deployment Predicting Generalized Anxiety Upon Reunion

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This study draws on the emotional cycle of deployment model (Pincus, House, Christenson, & Adler, 2001) to consider how the valence of communication between military personnel and at-home partners during deployment predicts their generalized anxiety upon reunion. Online survey data were collected from 555 military couples (N = 1,110 individuals) once per month for 8 consecutive months beginning at homecoming. Dyadic growth curve modeling results indicated that people's anxiety declined across the transition. For at-home partners, constructive communication during deployment predicted a steeper decline in anxiety over time. For both returning service members and at-home partners, destructive communication during deployment predicted more anxiety upon reunion but a steeper decline in anxiety over time. Results were robust beyond the frequency of communication during deployment and a host of individual, relational, and military variables. These findings advance the emotional cycle of deployment model, highlight the importance of the valence of communication during deployment, and illuminate how the effects of communication during deployment can endure after military couples are reunited.

Keywords: anxiety, communication, deployment, military couples, reunion after deployment

Supplemental materials: http://dx.doi.org/10.1037/fam0000344.supp

Deployment in the service of combat, peacekeeping, relief, and training missions around the globe can spark substantial anxiety for military families. Service members and their romantic partners may worry about each other's safety, their ability to handle responsibilities at home or overseas, the risk of infidelity, the threat of physical and mental illness, and the welfare of children (e.g., Faber, Willerton, Clymer, MacDermid, & Weiss, 2008; Knobloch, Theiss, & Wehrman, 2015). Communication is a key way for military personnel and at-home partners to manage their anxiety during the separation (e.g., Maguire, Heinemann-LaFave, & Sahlstein, 2013; Merolla, 2010). Communication between partners can mollify apprehension, facilitate support, and assuage worry during deployment (e.g., Carter et al., 2015; Rossetto, 2013; Wheeler & Torres Stone, 2010). Indeed, military couples identify communicating effectively as an important mechanism for handling the stress of deployment (Knobloch, Basinger, Wehrman, Ebata, & McGlaughlin, 2016).

Despite a growing literature documenting the pivotal role of communication during deployment (Carter & Renshaw, 2016a), questions remain about whether its associations with anxiety endure after military couples are reunited. Does communication during deployment have implications for people's generalized anxiety upon reunion? Symptoms of generalized anxiety include extreme fears or chronic worry about everyday events; behavioral avoidance; and physical difficulties such as hyperarousal, muscle tension, sleep disturbances, and concentration problems (American Psychiatric Association, 2013). Both returning service members (Kim, Thomas, Wilk, Castro, & Hoge, 2010; McNulty, 2005) and at-home partners (Fields, Nichols, Martindale-Adams, Zuber, & Graney, 2012) experience symptoms of generalized anxiety during the postdeployment transition. In turn, symptoms of anxiety correspond with impaired work productivity for military personnel (Adler et al., 2011), poorer physical health for at-home partners (Fields et al., 2012), and more reintegration stress for both individuals (Marek & D'Aniello, 2014).

We use the emotional cycle of deployment model (Pincus et al., 2001) to examine the valence of communication during deployment as a predictor of generalized anxiety upon reunion. We begin

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by reviewing the model and the literature on communication during deployment. Next, we report data from 555 military couples who participated in an 8-wave longitudinal study beginning at homecoming. We conclude by examining the implications of our results for understanding how people's communication during deployment corresponds with their generalized anxiety during reintegration.

Communication and Generalized Anxiety

The emotional cycle of deployment model provides a descriptive framework for understanding the experiences of deployed service members and at-home partners (Pincus et al., 2001). The model divides the deployment trajectory into 5 stages: predeployment, deployment, sustainment, redeployment, and postdeployment (also termed *reunion* or *reintegration*), and it defines unique challenges for each stage. A key premise of the model is that military couples who are unable to master the demands of each stage will experience anxiety and distress. A second core tenet is that people's communication behavior in each stage lays a foundation for their emotional well-being in subsequent stages.

The emotional cycle of deployment model suggests that people's communication during deployment has implications for the anxiety they experience upon reunion (Pincus et al., 2001). For example, the model contends that communication during deployment can be a double-edged sword with respect to anxiety (see also Greene, Buckman, Dandeker, & Greenberg, 2010). Communication can help calm fears, boost security about the future, and enhance confidence in the relationship, but it also can exacerbate distress, provoke conflict, and intensify feelings of distance between partners (see also Carter et al., 2015; Maguire et al., 2013; Rossetto, 2013). Moreover, the model emphasizes that problems with inaccessible or unreliable communication technology can heighten people's anxiety about each other's safety, priorities, and commitment to the relationship (see also Hinojosa, Hinojosa, & Högnäs, 2012; Maguire et al., 2013). Finally, the model explains how a lack of communication during deployment can pave the way for anxiety fostered by rumors, secrets, and gossip.

The emotional cycle of deployment model implies a connection between people's communication during deployment and their anxiety after homecoming. Notably, however, the model stops short of specifying the features of communication that may generate more or less anxiety upon reunion. Consequently, we turn to the literature on communication during deployment to theorize about the characteristics of communication that may contribute to the anxiety of returning service members and at-home partners during reintegration.

Communication During Deployment

Scholarship on communication during deployment has privileged the frequency of the exchanges between military couples as its central predictor and relationship well-being as its focal outcome. Conflicting results exist (Greene et al., 2010). On one hand, Joseph and Afifi (2010) found that military wives who reported more frequent communication with their deployed husband were less satisfied with their relationship. On the other hand, Cigrang et al. (2014) observed that Air Force personnel who communicated more frequently with their romantic partner during deployment showed a reduction in relationship distress from predeployment to deployment. Likewise, Ponder and Aguirre (2012) reported that service members who communicated with their spouse every day during deployment were more satisfied with their relationship upon reunion than those who communicated with their spouse less than once per week. Mixed outcomes also are apparent in the same study: Houston, Pfefferbaum, Sherman, Melson, and Brand (2013) found that military wives who communicated more frequently with their deployed husband were more lonely but less likely to lose their temper with their spouse. These divergent findings hint that the role of communication during deployment is broader than the frequency of interaction.

Other studies have considered the frequency of channel use. The channels of communication available to military couples depend in part on the security requirements of the deployment (Hinojosa et al., 2012; MacDermid et al., 2005), but service members and at-home partners typically use some combination of channels that vary by the richness of the cues (i.e., email vs. Skype) and the synchrony of the exchanges (i.e., letters vs. telephone; Carter & Renshaw, 2016b). Although some work suggests that synchronous communication channels such as the telephone may be desirable for complex interaction tasks (Schumm, Bell, Ender, & Rice, 2004), other research shows that asynchronous communication channels, including email, letters, cards, and care packages, correspond with more relationship satisfaction (Ponder & Aguirre, 2012). This work implies that a nuanced understanding of communication during deployment involves considering other dimensions in addition to the frequency of channel use.

Conspicuously missing from prior work is systematic attention to the valence of communication during deployment as a predictor of generalized anxiety as an outcome. Notably, however, research with civilian couples suggests a link between communication valence and anxiety (Newman & Erickson, 2010; Whisman & Beach, 2010). Both deficits in constructive communication (e.g., less problem-solving, less supportiveness) and the presence of destructive communication (e.g., criticism, hostility) correspond with anxiety among civilian couples (Chambless et al., 2002; Zinbarg, Lee, & Yoon, 2007). We are not aware of any work investigating the valence of communication between military couples during deployment as a predictor of mental health outcomes. Consequently, we echo Maguire's (2015) call for more sophisticated conceptualizations of communication during deployment. One benefit is to advance theory: The emotional cycle of deployment model could be augmented by delineating how the tenor of communication between military couples during deployment corresponds with generalized anxiety during reintegration. A second benefit is to advance research: The disparate findings for the frequency of communication during deployment imply that predictive precision could be enhanced by examining valence (e.g., Carter et al., 2015; Greene et al., 2010).

Hypotheses

Our goal is to investigate how the valence of people's communication during deployment predicts their generalized anxiety upon reunion. On the basis of the theorizing of the emotional cycle of deployment model (Pincus et al., 2001), we hypothesize that people's generalized anxiety is highest at homecoming and declines as the transition unfolds:

Hypothesis 1 (H1): The generalized anxiety reported by military couples decreases over time across the postdeployment transition.

Two other hypotheses integrate the model's logic with research connecting the valence of communication to anxiety among civilian couples (Newman & Erickson, 2010; Whisman & Beach, 2010). Namely, we theorize that the constructiveness and destructiveness of communication during deployment predicts people's generalized anxiety upon reunion beyond the frequency of their exchanges during deployment:

Hypothesis 2 (H2): Controlling for the frequency of communication during deployment, the constructiveness of communication during deployment reported by military couples corresponds with less generalized anxiety (H2a) and a stronger decline in generalized anxiety across time (H2b) upon reunion.

Hypothesis 3 (H3): Controlling for the frequency of communication during deployment, the destructiveness of communication during deployment reported by military couples corresponds with more generalized anxiety (H3a) and a weaker decline in generalized anxiety across time (H3b) upon reunion.

Method

We conducted a longitudinal study in which U.S. service members and at-home partners completed an online questionnaire once per month beginning at homecoming. Data collection spanned 8 months to cover the 6-month window that the emotional cycle of deployment model defines as the postdeployment transition (Pincus et al., 2001). Observations were spaced 1 month apart to be sensitive to changes in people's generalized anxiety over time. Responses were collected from dyads to illuminate the extent to which people's reports of communication during deployment predicted both their own generalized anxiety (actor effects) and their partner's generalized anxiety (partner effects; Kenny, Kashy, & Cook, 2006).

After receiving institutional review board approval, we recruited participants by (a) posting to online forums frequented by military families, (b) circulating information to military installation newspapers, and (c) enlisting the help of military family life professionals located in all 50 states. Military couples were eligible if (a) partners had separate email accounts, (b) one or both partners had recently returned home from deployment, and (c) both partners completed the Wave 1 questionnaire within the first 7 days after reunion. Most couples reserved a spot in the study in advance of their projected reunion date, but others enrolled upon homecoming.

Procedures

After both partners replied to an email soliciting their consent, we emailed each person a link to the Wave 1 questionnaire along with a unique login and a temporary password. Participants logged into the Wave 1 questionnaire to select a permanent password for the duration of the study. We sent reminder emails on the 4th day and the 6th day after reunion, and on the 7th day the Wave 1 logins expired. We eliminated 32 military couples because one or both partners failed to complete the Wave 1 questionnaire by the 1-week deadline.

Data collection continued with the remaining 555 military couples for 7 consecutive months. On the monthly anniversary of their reunion date, we emailed participants a link to the next questionnaire, which remained open for 7 days. We also sent reminder emails on the 4th day and the 6th day. Individuals received a $15 e-gift card from a national retailer for each wave of the study they completed plus a bonus $50 e-gift card if they completed all waves.

Participants

The sample of 555 military couples (n = 1,110 individuals) contained 554 men and 556 women (n = 554 cross-sex couples, 1 same-sex couple). Individuals were Caucasian (81%), Latino/a (10%), African American (4%), Asian or Pacific Islander (3%), or American Indian or Alaskan Native (2%).[1] Participants ranged from 19 to 59 years of age (M = 31.18 years, SD = 6.39 years) and hailed from 44 U.S. states, the District of Columbia, and Guam. They described their education as some high school (1%), high school graduate (13%), some college (31%), associate's degree (15%), bachelor's degree (28%), or advanced graduate degree (12%). Most individuals reported an annual household income of between $21,000 and $40,000 (23%), $41,000 and $60,000 (32%), or $61,000 and $80,000 (18%).

Most military couples were married (95%), and of those who were married, most were involved in their first marriage (81%) versus a remarriage (19%). The majority of military couples lived in the same residence upon reunion (96%) and had children (71%). The length of their romantic relationship averaged 8.43 years (SD = 5.40 years).

Most returning service members were men (n = 547) and at-home partners were women (n = 548). The majority of at-home partners were civilians (88%), but others were current (5%) or former (7%) members of the military. Returning service members were affiliated with the U.S. Army (40%), Navy (21%), Marines (18%), Air Force (10%), Army National Guard (8%), Air National Guard (2%), or Coast Guard (1%). The length of their deployment averaged 7.71 months (SD = 2.31 months), and their primary mission during deployment was combat (60%), peacekeeping (17%), training (15%), relief (3%), or undisclosed (5%). Approximately 30% of returning service members had deployed for the first time; others had completed one (24%), two (17%), three (13%), four (8%), or five or more (8%) previous deployments.

Individuals completed the Wave 1 questionnaire an average of 4.27 days after reunion (SD = 1.81 days). Their rate of participation remained relatively high across the duration of the study: (a) 91% at Wave 2, (b) 92% at Wave 3, (c) 88% at Wave 4, (d) 89%

[1] Our sample was slightly less diverse than the U.S. military population as a whole. According to the U.S. Department of Defense, Office of the Deputy Assistant Secretary of Defense for Military Community and Family Policy (2015), approximately 71% of the total military force identify as White, 17% as Black or African American, 4% as Asian, 1% as American Indian or Alaska Native, and 1% as Native Hawaiian or Pacific Islander. Approximately 12% of the total military force identify as Hispanic or Latino/a.

at Wave 5, (e) 88% at Wave 6, (f) 86% at Wave 7, and (g) 88% at Wave 8.

Measures

Secondary covariates. We assessed several secondary control variables at Wave 1 to facilitate a rigorous test of our predictions. Individual attributes included each person's sex, race, age, education, and the number of days elapsed between reunion and participation in Wave 1. Relationship attributes included household income, relationship length, marital status, prior marriage for the at-home partner, prior marriage for the returning service member, living together in the same residence upon reunion, and the presence of children. Military attributes included military branch, dual-military couple status, first deployment for the returning service member, length of deployment, and mission during deployment.

Core covariates. We used multi-item scales to measure three core covariates at Wave 1: relationship satisfaction, combat exposure during deployment, and the frequency of communication during deployment. We conducted confirmatory factor analyses to verify the factor structure of these scales, and we set the model fit criteria to comparative fit index (CFI) >.950 and root mean square error of approximation (RMSEA) <.060 (Hu & Bentler, 1999).

Relationship satisfaction. Participants completed the Couples Satisfaction Index (CSI; Funk & Rogge, 2007).[2] Four items comprised the measure: (a) please indicate the degree of happiness, all things considered, of your relationship (0 = *extremely unhappy*, 6 = *perfect*), (b) how warm and comfortable is your relationship with your partner? (c) how rewarding is your relationship with your partner? and (d) in general, how satisfied are you with your relationship? (0 = *not at all*, 5 = *completely*). We summed the responses to compute the variable (M = 17.20, SD = 3.32, range = 2.00–21.00, α = .83, CFI = 0.987, RMSEA = .051).

Combat exposure during deployment. Keane et al.'s (1989) Combat Exposure Scale (CES) contains 7 items rated on a 5-point scale. The items ask about the frequency with which the service member (a) went on combat patrols; (b) fired rounds at the enemy; (c) saw people hit by rounds; (d) was under enemy fire; (e) was surrounded by the enemy; (f) was in danger of being injured or killed; and (g) had personnel in his or her unit who were wounded, killed, or missing in action. Returning service members responded to the original scale; at-home partners responded to the same items prefaced with instructions developed by Renshaw, Rodrigues, and Jones (2008) to provide the rating that "best describes your understanding of your partner's experiences" during deployment (p. 588). We calculated the scale as the average of the items (M = 0.51, SD = 0.64, range = 0.00–4.00, α = .75, CFI = .964, RMSEA = .058).

Frequency of communication during deployment. We constructed a measure based on the channels commonly reported by military couples in prior work (see Carter & Renshaw, 2016a). The scale was introduced by the question "How frequently did you use the following channels to communicate with your romantic partner during deployment?" (0 = *did not use*, 1 = *once per month*, 2 = *every other week*, 3 = *once per week*, 4 = *several times per week*, 5 = *once per day*, 6 = *more than once per day*). The items referenced six channels: (a) telephone (M = 2.26, SD = 1.99), (b) video chat/Skype (M = 2.80, SD = 1.96), (c) email (M = 3.15, SD = 2.12), (d) Facebook (M = 3.08, SD = 2.38), (e) instant messaging (M = 2.97, SD = 2.68), and (f) cards and letters (M = 0.84, SD = 0.97). We computed the measure as the average of people's scores across channels (M = 2.56, SD = 1.00, range = 0.00–6.00, CFI = .977, RMSEA = .045).

Substantive variables. Participants reported the valence of their communication during deployment at Wave 1, and they reported their symptoms of generalized anxiety at each wave.

Valence of communication during deployment. We wrote items specifically for this study that were prefaced by the following stem: "Communicating with your partner during deployment was . . ." (1 = *strongly disagree*, 5 = *strongly agree*). Five items assessed *constructive communication*: (a) helpful, (b) satisfying, (c) effective, (d) useful, and (e) valuable (M = 4.39, SD = 0.73, range = 1.00–5.00, α = .88). Three items indexed *destructive communication*: (a) frustrating, (b) upsetting, and (c) disappointing (M = 2.11, SD = 0.95, range = 1.00–5.00, α = .78). CFA results verified the unidimensionality of the 5-item measure of constructive communication (CFI = .979, RMSEA = .057) and the 3-item measure of destructive communication (CFI = .986, RMSEA = .052), but an 8-item scale with the destructive communication items reverse scored did not form a unidimensional factor (CFI = .920, RMSEA = .092). On the basis of these results, we treated the two scales as separate constructs that shared 32% of their variance in common, r = −.57, p < .001.

Generalized anxiety. The first 268 couples (48%) completed the 21-item Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988), but given the substantial per-use licensing cost of administrating the BAI, the remaining 287 couples (52%) completed the 14-item anxiety subscale of the Depression, Anxiety, and Stress Scale (DASS; Lovibond & Lovibond, 1995). For both measures, participants rated how much they were bothered by a series of symptoms during the past week (0 = *not at all*, 3 = *most of the time*). Sample DASS items included (a) feeling terrified, (b) difficulty breathing, and (c) feeling close to panic (BAI: M = 3.96, SD = 7.22; DASS: M = 1.86, SD = 3.74).

To put the scales on a common metric, we followed guidelines by Cohen, Cohen, Aiken, and West (1999) to convert the responses to the percent of maximum possible score (POMP). The POMP metric is advantageous because (a) it is a simple linear transformation grounded in the original units of the scale, (b) it is not sample dependent or population dependent, and (c) it is superior to other ways of facilitating comparisons across different measures of the same construct. The POMP scores in our sample averaged 5.32 across waves (SD = 10.26, range = 0–100), with 412 individuals (37%) meeting or exceeding clinical cutoff scores for moderate anxiety (Beck et al., 1988; Lovibond & Lovibond, 1995) at one or more waves of the study.

Repeated-measures analysis of variance indicated no difference between the POMP scores for the two versions of the measure for returning service members, F(1, 385) = 0.13, *ns*, but at-home partners reported higher POMP scores on the BAI than the DASS,

[2] We measured people's reports of relationship satisfaction at each wave, but the variable showed notable consistency from month to month (intraclass correlation = .92 for returning service members and .94 for at-home partners), so we covaried covaried only their Wave 1 scores for the sake of parsimony.

$F(1, 426) = 12.77$, $p < .001$. Consequently, we covaried the version of the measure in the tests of our hypotheses.

Descriptive statistics for the POMP scores were (a) Wave 1 $M = 6.80$, $SD = 10.27$, range = 0.00–90.00; (b) Wave 2 $M = 5.71$, $SD = 10.01$, range = 0.00–96.83; (c) Wave 3 $M = 5.32$, $SD = 9.98$, range = 0.00–82.54; (d) Wave 4 $M = 5.32$, $SD = 10.47$, range = 0.00–93.65; (e) Wave 5 $M = 4.69$, $SD = 9.99$, range = 0.00–90.48; (f) Wave 6 $M = 4.81$, $SD = 10.44$, range = 0.00–90.48; (g) Wave 7 $M = 5.00$, $SD = 10.56$, range = 0.00–100.00; and (h) Wave 8 $M = 4.73$, $SD = 10.20$, range = 0.00–77.78. Within-person correlations across time indicated that anxiety was somewhat stable from wave to wave for both returning service members (*r*s ranged from .42 to .80, all *p*s $< .001$) and at-home partners (*r*s ranged from .56 to .84, all *p*s $< .001$).

Results

Preliminary Analyses

We conducted two preliminary analyses to examine communication during deployment and anxiety at Wave 1. A first preliminary analysis involved paired-sample *t* tests comparing returning service members ($n = 555$) versus at-home partners ($n = 555$). Findings indicated no differences for the frequency or constructiveness of communication during deployment, but at-home partners reported more destructive communication during deployment ($M = 2.16$, $SD = 0.98$) than returning service members reported ($M = 2.06$, $SD = 0.91$), $t(554) = 2.05$, $p = .041$. At-home partners also reported more anxiety at Wave 1 ($M = 8.59$, $SD = 11.61$) than returning service members reported ($M = 5.00$, $SD = 8.35$), $t(554) = 6.59$, $p < .001$.

A second preliminary analysis evaluated the bivariate correlations among the core covariates, independent variables, and dependent variable at Wave 1 (see Table 1). For both partners, (a) relationship satisfaction was positively correlated with the frequency and constructiveness of communication during deployment, (b) relationship satisfaction was negatively correlated with both the destructiveness of communication during deployment and anxiety, and (c) constructive and destructive communication during deployment were negatively correlated. Anxiety was negatively correlated with constructive communication during deployment and positively correlated with destructive communication during deployment. For returning service members, combat exposure was negatively correlated with relationship satisfaction and positively correlated with anxiety. For at-home partners, the frequency and constructiveness of communication during deployment were positively associated.

Substantive Analyses

Unconditional model. We conducted the substantive analyses using dyadic growth curve modeling within a structural equation modeling framework (Kenny et al., 2006; Peugh, DiLillo, & Panuzio, 2013). We began by modeling the trajectory of anxiety reported by returning service members and at-home partners separately in an unconditional model without predictors (see Figures 1 and 4A in the online supplemental material), correlating the intercepts and slopes within couples, and correlating the residuals of anxiety within couples at each wave (following Kenny et al., 2006).

The unconditional model had a marginal fit to the data, $\chi^2/df = 3.80$, CFI = .953, RMSEA = .071 [90% confidence interval {CI} = .064 to .078]. Consistent with H1, the statistically significant negative slopes showed that anxiety decreased across time for both returning service members and at-home partners (see Table 2). For both partners, variance in their initial levels of anxiety (intercepts) and the change in their anxiety across time (slopes) was available to be explained by the predictors. The intercepts, but not the slopes, were positively correlated between partners. Results of χ^2 difference tests (not shown) indicated that returning service members and at-home partners differed in their intercepts, slopes, and associated variance components.

Preliminary conditional model. A second step involved estimating two preliminary conditional models with predictors (see Figure 2 in the online supplemental material). These models contained people's Wave 1 reports of the frequency of communication during deployment along with their Wave 1 reports of either constructive or destructive communication. The independent variables were modeled as actor and partner effects predicting each person's intercept and slope.

Results indicated a marginal fit to the data for the constructive and destructive communication models, respectively, $\chi^2/df = 3.07$ and 3.09, CFI = .953 and .953, RMSEA = .061 [90% CI = .055 to .067] and .061 [90% CI = .055 to .068]. The constructive communication model explained slightly less variation than the destructive communication model, respectively, for both returning service members (intercept $R^2 = .016$ and .064; slope $R^2 = .009$

Table 1
Bivariate Correlations at Wave 1

Variable	V1	V2	V3	V4	V5	V6
V1: Relationship Satisfaction	.37***	−.10*	.12**	.26***	−.27***	−.23***
V2: Combat Exposure	−.04	.75***	.04	−.03	.02	.14**
V3: Communication Frequency	.14**	.05	.49***	.08	−.05	.03
V4: Constructive Communication	.46***	.01	.22***	.26***	−.56***	−.14**
V5: Destructive Communication	−.39***	.07	−.08	−.58***	.25***	.25***
V6: Generalized Anxiety	−.18***	.06	.03	−.14**	.29***	.20***

Note. $N = 555$ returning service members, at-home partners, or military couples. Wave 1 bivariate correlations for returning service members appear above the diagonal, Wave 1 bivariate correlations for at-home partners appear below the diagonal, and Wave 1 within-couple correlations appear on the diagonal and are underlined.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2
Growth Parameters for the Unconditional Model Predicting Generalized Anxiety

Parameter	Generalized anxiety of returning service members		Generalized anxiety of at-home partners	
	Estimate	Variance	Estimate	Variance
Intercept	4.71***	48.49***	7.32***	95.92***
Slope	−0.14**	0.69***	−0.33***	0.88***
r of intercept and slope	−0.11		−0.30***	

Note. $N = 555$ military couples. The within-couple correlation of the intercepts for generalized anxiety was $r = .18$, $p < .001$. The within-couple correlation of the slopes for generalized anxiety was $r = .11$, *ns*.
** $p < .01$. *** $p < .001$.

and .022) and at-home partners (intercept $R^2 = .032$ and .095; slope $R^2 = .029$ and .035).

Actor effects but not partner effects were apparent. Consistent with H2a, constructive communication during deployment predicted less initial anxiety for both returning service members ($\beta = -.11$, $p = .02$) and at-home partners ($\beta = -.16$, $p = .001$). As proposed by H3a, destructive communication during deployment predicted more initial anxiety for both returning service members ($\beta = .24$, $p < .001$) and at-home partners ($\beta = .29$, $p < .001$). Contrary to H2b and H3b, constructive communication during deployment did not predict the slope of anxiety for either partner, and returning service members who reported more destructive communication during deployment experienced a stronger (rather than weaker) decline in their anxiety over time ($\beta = -.15$, $p = .02$). No effects emerged for the frequency of communication during deployment.

Final conditional model. A third step involved estimating a final conditional model as a comprehensive test of our hypotheses (see Figure 3 in the online supplemental material). We again modeled actor and partner effects of each independent variable and covariate predicting each person's intercept and slope. The two independent variables were Wave 1 reports of constructive (H2) and destructive (H3) communication during deployment. The three core covariates were Wave 1 reports of relationship satisfaction, combat exposure, and frequency of communication during deployment.

We included 18 secondary Wave 1 covariates modeled as predictors of each person's intercept and slope. We streamlined the number of parameters to be estimated by converting each categorical covariate into a single dummy-coded term. Five covariates represented individual attributes for each person: (a) sex (1 = male, 0 = female),[3] (b) race (1 = White, 0 = non-White), (c) age, (d) education, and (e) the number of days elapsed between reunion and participation. Seven covariates indexed relationship attributes: (a) household income, (b) relationship length, (c) marital status (1 = married, 0 = not married), (d) prior marriage for the at-home partner, (e) prior marriage for the returning service member, (f) living together in the same residence upon reunion, and (g) the presence of children. Five covariates represented military attributes: (a) military branch (1 = active-duty Army, 0 = all other branches), (b) dual-military couple status, (c) first deployment for the returning service member, (d) length of deployment, and (e) mission during deployment (1 = combat mission, 0 = noncombat mission). A final covariate indexed the measure of anxiety the participant completed (1 = BAI, 0 = DASS). To simplify the interpretation of the intercepts, we grand-mean centered both the time-based measures and the multi-item scales.

The final conditional model showed reasonable fit, $\chi^2/df = 1.85$, CFI = .965, RMSEA = .039 [90% CI = .035 to .043], and it explained a modest degree of variation for both returning service members (intercept $R^2 = .182$; slope $R^2 = .130$) and at-home partners (intercept $R^2 = .209$; slope $R^2 = .153$). Of note, the core covariates and independent variables accounted for the downward slope of generalized anxiety over time for both returning service members and at-home partners (see Figure 4B in the online supplemental material for the trajectory of generalized anxiety based on the final conditional model).

Results for the core covariates indicated that the Wave 1 relationship satisfaction reported by returning service members and at-home partners negatively predicted their own initial levels of anxiety (see Table 3). Moreover, the combat exposure reported by returning service members was positively associated with their own initial level of anxiety as well as the slope of anxiety for at-home partners. Frequency of communication during deployment did not predict the intercepts or slopes of anxiety for either returning service members or at-home partners.

With respect to the other covariates, the intercept for returning service members was predicted by their race ($\beta = -.10$, $p = .028$), and the slope for returning service members corresponded with their level of education ($\beta = .25$, $p = .002$). The intercept for at-home partners was predicted by the returning service member's level of education ($\beta = -.14$, $p = .010$), the length of the deployment ($\beta = -.09$, $p = .049$), and the version of the anxiety measure that at-home partners completed ($\beta = .17$, $p < .001$). Moreover, the slope for at-home partners was predicted by deployment mission ($\beta = -.15$, $p = .028$).

Five actor effects emerged in the tests of our multivariate hypotheses (see Table 3) that were similar to the results of the preliminary conditional models. Contrary to H2a, constructive communication during deployment did not predict the intercept for either partner. H2b was only supported for at-home partners: Constructive communication during deployment reported by at-home partners negatively predicted their slope, suggesting a steeper decline in anxiety over time. H3 also received mixed support. As predicted, destructive communication during deployment reported by returning service members and at-home partners was a positive predictor of their intercept (H3a); opposite expectations, it was a negative predictor of their slope (H3b). In other words, destructive communication during deployment corresponded with higher levels of anxiety at Wave 1 but a steeper decline in anxiety over time.

In a follow-up analysis, we conducted χ^2 difference tests of structural invariance to compare the paths for the independent variables and core covariates between returning service members and at-home partners. No differences emerged. These results suggest that the associations between communication during deployment and anxiety upon reunion were largely similar for returning service members and at-home partners.

[3] We covaried only the sex of the returning service member because 554 of the 555 military couples in the sample were heterosexual.

Table 3
Actor Effects for the Final Conditional Model Predicting Generalized Anxiety

Parameter	Generalized anxiety of returning service members		Generalized anxiety of at-home partners	
	B (*SE*)	β	B (*SE*)	β
Predictors of the intercepts				
Constructive communication	0.74 (0.54)	.08	0.94 (0.76)	.07
Destructive communication	1.98 (0.43)	.26***	2.91 (0.55)	.29***
Relationship satisfaction	−0.33 (0.12)	−.15**	−0.34 (0.15)	−.12*
Combat exposure	1.83 (0.78)	.17*	0.10 (0.99)	.01
Communication frequency	0.05 (0.35)	.01	0.73 (0.51)	.07
Predictors of the slopes				
Constructive communication	−0.03 (0.09)	−.03	−0.31 (0.10)	−.24**
Destructive communication	−0.15 (0.07)	−.16*	−0.16 (0.07)	−.16*
Relationship satisfaction	0.03 (0.02)	.09	0.04 (0.02)	.14
Combat exposure	0.08 (0.13)	.06	−0.13 (0.13)	−.09
Communication frequency	0.03 (0.06)	.04	−0.11 (0.07)	−.11
Variance parameters	Estimate (*SE*)		Estimate (*SE*)	
Intercept variance	39.59*** (3.09)		76.14*** (5.57)	
Slope variance	0.61*** (0.08)		0.76*** (0.10)	

Note. $N = 555$ military couples. The model included 18 other Wave 1 covariates. The sole partner effect was that combat exposure reported by returning service members was positively associated with the slope of generalized anxiety for at-home partners ($\beta = .21$, $p = .03$).
* $p < .05$. ** $p < .01$. *** $p < .001$.

Discussion

The return home of service members after deployment is portrayed by the media as an overwhelmingly joyful celebration, but such depictions cast reunion as an endpoint rather than the beginning of a potentially challenging period for military families (Howard & Prividera, 2015). Following Greene et al.'s (2010) call for data on the mental health ramifications of communication during deployment, we conducted a longitudinal study in which 555 military couples reported on their generalized anxiety once per month for 8 months starting at homecoming. We next consider how our results advance theory, research, and practice.

Implications of the Results

A recent critique of the literature on communication during deployment contends that much of the knowledge claims are "based on anecdotal and indirect evidence" (Cigrang et al., 2014, p. 335). We sought to strengthen the theoretical foundation of the literature by using the logic of the emotional cycle of deployment model (Pincus et al., 2001). The model is popular for describing the experiences of military couples across the trajectory, but it has not been subjected to extensive empirical testing. Our findings provided mixed support for hypotheses we derived from the model's reasoning and research linking communication and anxiety.

As predicted, returning service members and at-home partners reported that their generalized anxiety declined over time across the postdeployment transition (H1), and at-home partners who retrospectively reported more constructive communication during deployment experienced a more rapid decline in anxiety over time (H2b). Returning service members and at-home partners who retrospectively reported more destructive communication during deployment experienced more anxiety at Wave 1 (H3a), but contrary to expectations, they also experienced a more rapid decline in anxiety over time (H3b). These findings endured across waves (over 8 months of reintegration); were apparent after controlling for core covariates (relationship satisfaction, combat exposure, frequency of communication during deployment); and were robust beyond a heterogeneous set of individual characteristics (sex, race, age, education, number of days since reunion), relationship qualities (household income, relationship length, marital status, prior marriage for either partner, cohabitation, presence of children), and military features (branch of service, dual-military couple status, deployment experience, length, mission).

Our study provides more insight into communication during deployment than previously available. Whereas extant work has focused on the frequency of communication and/or channel use (Carter & Renshaw, 2016b; Cigrang et al., 2014; Ponder & Aguirre, 2012), our findings revealed that the valence of communication during deployment was a unique predictor of anxiety after controlling for frequency. Two implications are noteworthy. First, results from both the confirmatory factor analyses and the dyadic growth curve models demonstrated that positively valenced versus negatively valenced communication are not opposite ends of the same continuum; the presence of both constructive communication and destructive communication mattered across the trajectory (see also Lavner & Bradbury, 2012). More broadly, our longitudinal data bolster recent cross-sectional retrospective work suggesting that communication dynamics during deployment have implications for people's outcomes after homecoming (e.g., Carter & Renshaw, 2016b; LeBlanc & Olson, 2015; Ponder & Aguirre, 2012). These findings underscore the importance of understanding how the stages of the deployment cycle are connected within people's experiences.

Our investigation also contributes to the literature on generalized anxiety. Scholars have stressed the importance of distinguishing specific interpersonal processes related to anxiety (Beck, 2010; Newman & Erickson, 2010), and our findings suggest constructive and destructive communication as two potential pathways. Perhaps a lack of

constructive communication inhibits the provision of social support, which is a significant contributor to people's physical and mental health (Cunningham & Barbee, 2000; Cutrona, 1996); alternatively, it may demarcate the interpersonal skill deficits that perpetuate anxiety (Alden & Taylor, 2004). Another possibility is that destructive communication fosters perceived criticism between partners (Hooley & Teasdale, 1989), which may heighten people's apprehension (e.g., Renshaw, Chambless, & Steketee, 2003). Our suggestions regarding these two potential pathways are speculative, but our data open the door to additional work elucidating the mechanisms connecting the valence of communication with anxiety among military couples.

Theorizing about the pathways of constructive and destructive communication is complicated by our contradictory findings predicting the decline in people's generalized anxiety over time. When at-home partners retrospectively reported more constructive communication during deployment (H2b), and when both returning service members and at-home partners retrospectively reported more destructive communication during deployment (H3b), individuals showed swifter improvement in their anxiety over time. In other words, both positive and negative interactions during deployment coincided with an accelerated drop in anxiety across reintegration. These results are reminiscent of research showing incongruous outcomes for the frequency of communication during deployment (cf. Cigrang et al., 2014; Houston et al., 2013; Joseph & Afifi, 2010), and they invite speculation about the explanation for the incongruity. Perhaps the findings reflect a statistical artifact of greater Wave 1 generalized anxiety for individuals who engaged in more destructive communication during deployment. On the other hand, perhaps communicative exchanges of any sort during deployment (compared to overtly avoidant behaviors) exemplify a deep, abiding, and intertwined interdependence between partners (e.g., Berscheid, 1983) that helps to alleviate anxiety more quickly upon reunion. Or perhaps the combination of both constructive and destructive communication during deployment signals that military couples are confronting challenging topics immediately rather than sidestepping issues of conflict that resurface during reintegration and prolong anxiety (e.g., Joseph & Afifi, 2010; Knobloch, Ebata, McGlaughlin, & Theiss, 2013). We look forward to future work sorting out these possibilities, but in the meantime, our results broadly underscore the role of communication in the experience of anxiety (e.g., Whisman & Beach, 2010).

Our study suggests three clinical recommendations aimed at preserving the mental health of returning service members and at-home partners during the transition from deployment to reunion. First, our results imply that military couples who enact constructive communication and refrain from destructive communication during deployment derive the most mental health benefits at reunion. A major caveat is that our data do not resolve conflicting advice regarding communication during deployment (Greene et al., 2010)—for example, whether to share openly or to avoid stressful topics to protect each other from worry (Durham, 2010; Joseph & Afifi, 2010)—because both constructive and destructive communication during deployment corresponded with a more rapid decline in anxiety across the reintegration period. Second, with respect to intervention, our findings emphasize the value of offering services to military couples at key junctures throughout the trajectory. Whereas communication skills training (e.g., Butler & Wampler, 1999) may be a valuable addition to predeployment education to help military couples interact effectively during deployment, clinical intervention to manage generalized anxiety may be beneficial immediately upon homecoming, when people's symptoms of anxiety may be most severe. Third, regarding prevention, research evaluating the long-term effectiveness of communication skills education in preventing or treating anxiety among military couples (e.g., Arnow, Taylor, Agras, & Telch, 1985) is an important next step.

Limitations and Directions for Future Research

Despite the relatively large size of our sample compared with other work on this topic, limitations temper the conclusions drawn from our data. First, our measures of communication during deployment were new rather than established scales. Further construct validation work is required. Second, we relied on a convenience recruitment strategy that attracted returning service members and at-home partners who reported relatively low levels of anxiety. Additional research is needed to evaluate our findings among military couples experiencing more substantial symptoms. Third, we lacked information about the mental health and relationship functioning of military couples before deployment. The emotional cycle of deployment model (Pincus et al., 2001) and prior research (Cigrang et al., 2014) suggest that the interpersonal dynamics of military couples before separation shape how they navigate subsequent stages. Moreover, we asked people to report on their communication during deployment after homecoming rather than during the separation, which raises the possibility of recall biases. Finally, we did not account for the communication of military couples after reunion. A prospective longitudinal investigation is vital both for testing the entirety of the emotional cycle of deployment model and for disentangling the extent to which predeployment, during-deployment, and after-deployment communication dynamics drive outcomes.

Other directions for future research involve devoting more nuanced attention to communication during deployment. Our findings regarding valence offer a starting point by highlighting the merits of considering communication during deployment in more complex ways than sheer frequency. However, constructiveness and destructiveness are hardly exhaustive of the ways to conceptualize communication during deployment. Scholars could build on in-depth work examining particular functions of communication during deployment, such as how military couples seek support (Rossetto, 2013), maintain their relationship (Maguire et al., 2013; Merolla, 2010), preserve their autonomy (Sahlstein, Maguire, & Timmerman, 2009), and decide what to disclose (Durham, 2010; Joseph & Afifi, 2010; Knobloch et al., 2015). We see value in future investigations that attend to more diverse aspects of communication during deployment.

Opportunities for advancement also exist with respect to outcomes. We selected generalized anxiety as our dependent variable because it is explicitly implicated in the theorizing of the emotional cycle of deployment model (Pincus et al., 2001), but communication during deployment is likely to correspond with other individual and relational outcomes as well. Scholars could consider other mental health symptoms such as depression and posttraumatic stress (e.g., Wilcox et al., 2015), other aspects of functioning such as reintegration difficulty (e.g., Knobloch, Ebata, McGlaughlin, & Ogolsky, 2013; Marek & D'Aniello, 2014), and other markers of dyadic well-being such as relational turbulence (e.g., Theiss & Knobloch, 2014). We look forward to future research that builds on our findings by considering an expanded range of outcomes to help military couples navigate the deployment cycle.

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Mental Health Symptoms and the Reintegration Difficulty of Military Couples Following Deployment: A Longitudinal Application of the Relational Turbulence Model

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Abstract

Objective: The transition from deployment to reintegration can be a difficult period of adjustment for returning service members and at-home partners. Understanding the factors that predict the reintegration difficulty of military couples during the transition has important implications for theory, research, and practice. This paper builds on the logic of the relational turbulence model to evaluate relationship processes as mediators of the connection between people's mental health symptoms and their difficulty with reintegration after deployment. ***Method:*** Dyadic and longitudinal data were collected from 555 military couples once per month for 8 consecutive months. ***Results:*** Findings mapped the trajectory of reintegration difficulty across the transition and documented relationship processes as mediators of the link between mental health symptoms and reintegration difficulty. ***Conclusion:*** These results suggest romantic relationships as a key domain of intervention to preserve the well-being of military couples during the post-deployment transition.

Keywords: deployment, difficulty with reintegration, mental health symptoms, military couples, relational turbulence

Mental Health Symptoms and the Reintegration Difficulty of Military Couples Following Deployment: A Longitudinal Application of the Relational Turbulence Model

No matter how much military couples look forward to a service member's return home from deployment, the transition from deployment to reintegration can be more difficult than portrayed by the popular press (Gorman, Blow, Ames, & Reed, 2011; Howard & Prividera, 2015; Karakurt, Christiansen, MacDermid Wadsworth, & Weiss, 2013). Returning service members may have trouble reconciling their former way of life with their new experiences during deployment (Balderrmana-Durbin et al., 2017; Brenner et al., 2015), at-home partners may have problems ceding their autonomy (Faber, Willerton, Clymer, MacDermid, & Weiss, 2008; Knobloch, Basinger, Wehrman, Ebata, & McGlaughlin, 2016), and both individuals may have difficulty rejuvenating their connection (Karakurt et al., 2013; Knobloch & Theiss, 2012).

Difficulty with reintegration refers to the personal and relational stressors that military families experience upon homecoming (Chandra et al., 2011; Chandra et al., 2010; Knobloch, Ebata, McGlaughlin, & Ogolsky, 2013). Delineating the predictors of reintegration difficulty among returning service members and at-home partners is important for advancing theory about transitions in relationships (e.g., Solomon, Knobloch, Theiss, & McLaren, 2016) and identifying evidence-based guidelines to help military couples navigate homecoming (e.g., Bommarito, Sherman, Rudi, Mikal, & Borden, 2017; Sherman, Larsen, & Borden, 2015).

We draw on the *relational turbulence model* to identify predictors of reintegration difficulty among military couples after deployment (Solomon & Theiss, 2011). The model has illuminated transitions as diverse as adapting to parenthood, grappling with infertility, coping with breast cancer, and adjusting to empty nest (Solomon et al., 2016). Guided by the model's logic (Knobloch & Theiss, 2011), we theorize about relationship processes as mediators of the

association between people's mental health symptoms and their difficulty with reintegration. Then, we test our reasoning using data from an 8-wave study of reuniting military couples.

Reintegration Difficulty during the Post-Deployment Transition

A growing literature has considered antecedents of the well-being of returning service members and at-home partners after homecoming (Bommarito et al., 2017; Currier, Lisman, Harris, Tait, & Erbes, 2013; Sherman et al., 2015). The emerging evidence suggests that both mental health symptoms (Balderrmana-Durbin et al., 2017; Gibbs, Clinton-Sherrod, & Johnson, 2012) and relationship processes (Knobloch, Ebata, McGlaughlin, & Ogolsky, 2013) predict adjustment upon reunion, but scholarship in this area would be enriched by synthesis. We seek to fill an important gap by considering relationship processes as mediators of the connection between people's mental health symptoms and their difficulty with reintegration.

Mental Health Symptoms

Both returning service members and at-home partners experience symptoms of depression, anxiety, and posttraumatic stress during the transition from deployment to reunion (Gorman et al., 2011; Kim, Thomas, Wilk, Castro, & Hoge, 2010; Milliken, Auchterlonie, & Hoge, 2007). *Depressive symptoms* involve intense feelings of sadness and/or a loss of interest in pleasurable activities, *anxiety symptoms* entail uncontrollable worry and/or extreme fear, and *posttraumatic stress symptoms* represent intrusive thoughts and/or disturbing feelings related to a traumatic event (American Psychiatric Association, 2013). Although depressive, anxiety, and posttraumatic stress symptoms frequently co-occur (e.g., Spinhoven, Pennix, van Hemert, de Rooij, & Elzinga, 2014), we consider them separately to facilitate a comprehensive examination.

Returning service members and at-home partners experiencing depressive, anxiety, and posttraumatic stress symptoms are likely to encounter problems following deployment. For

example, military personnel (Blais, Thompson, & McCreary, 2009) and at-home partners (Chandra et al., 2011; Knobloch, Ebata, McGlaughlin, & Ogolsky, 2013) with symptoms of psychological distress report more challenges during reintegration. Similarly, returning service members with symptoms of depression and posttraumatic stress report more problems adjusting to family life (Sayers, Farrow, Ross, & Oslin, 2009) and more conflict with others (Gibbs et al., 2012). Together, these findings highlight mental health symptoms as a predictor of the reintegration difficulty of military couples upon reunion.

Relationship Processes

The relational turbulence model proposes that transitions can be tumultuous within romantic relationships (Knobloch & Theiss, 2010). *Transitions* are periods in the lifespan of relationships that require people to adapt to changing conditions (Solomon et al., 2016). The model specifies two relationship processes instrumental to the experience of upheaval during transitions: relational uncertainty and interference from a partner (Solomon & Theiss, 2011). *Relational uncertainty* is how sure or unsure people are about the nature of a relationship (Knobloch & Theiss, 2010). *Interference from a partner* occurs when a partner blocks an individual's ability to achieve an everyday goal (Solomon & Theiss, 2011).

Reunion uncertainty. Upon homecoming, returning service members and at-home partners grapple with questions about how to reintegrate their lives, manage household stressors, adjust to personality changes, navigate sexual intimacy, gauge the service member's well-being, and communicate effectively (Knobloch & Theiss, 2012). Collectively, these issues represent *reunion uncertainty*, formally defined as relational uncertainty about the transition from deployment to reintegration (Knobloch, McAninch, Abendschein, Ebata, & McGlaughlin, 2016).

The model posits that individuals who are unable to make sense of their relationship during times of transition are likely to experience turmoil (Knobloch & Theiss, 2010; Solomon & Theiss, 2011). By extension, military couples experiencing reunion uncertainty may encounter reintegration difficulty during the post-deployment transition. Cross-sectional data show that returning service members and at-home partners who are grappling with questions about their relationship report less relationship satisfaction (Knobloch & Theiss, 2011), more aggressive communication (Theiss & Knobloch, 2013), and less responsiveness from their partner (Theiss & Knobloch, 2014). Longitudinal data indicate that relational uncertainty, in general, coincides with more reintegration difficulty during the first 3 months after homecoming (Knobloch, Ebata, McGlaughlin, & Ogolsky, 2013), and reunion uncertainty, in particular, corresponds with more topic avoidance (Knobloch, Ebata, McGlaughlin, & Theiss, 2013) and more relationship upheaval (Knobloch, McAninch, et al., 2016). In sum, both theory and research suggest reunion uncertainty as a predictor of reintegration difficulty.

Reintegration interference from a partner. Assimilating a service member back into domestic life after deployment yields many opportunities for partners to hinder each other's goals. Returning military personnel and at-home partners report disruptions tied to everyday routines, domestic tasks, control, feeling smothered, parenting, personality differences, social networks and social activities, and lack of adequate time together (Knobloch & Theiss, 2012). We label these issues *reintegration interference from a partner* to denote the hindrances specifically tied to the transition.

The model contends that individuals whose everyday goals are disrupted by a partner are prone to upheaval during times of transition (Knobloch & Theiss, 2010; Solomon & Theiss, 2011). Accordingly, military couples experiencing reintegration interference from a partner may

have trouble adjusting upon homecoming. Cross-sectional data indicate that recently-reunited individuals experiencing hindrance judge their relationship to be less satisfying (Knobloch & Theiss, 2011), appraise their partner as less responsive to their needs (Theiss & Knobloch, 2014), and communicate in ways that are less open and more aggressive (Knobloch & Theiss, 2017; Theiss & Knobloch, 2013). A first longitudinal test revealed a positive association between disruptions from a partner and problems with reintegration during the first 3 months after homecoming (Knobloch, Ebata, McGlaughlin, & Ogolsky, 2013). Hence, both theory and research imply that reintegration interference from a partner predicts people's difficulty with reintegration upon reunion following deployment.

Combined Effects of Mental Health Symptoms and Relationship Processes

Up to this point, we have considered people's mental health symptoms and relationship processes in isolation, but our goal is integration. We extend the logic of the relational turbulence model to theorize that relationship processes may mediate the effects of people's mental health symptoms on their reintegration difficulty during the post-deployment transition. In other words, military couples experiencing mental health symptoms may be vulnerable to questions about involvement and hindrance from each other (Knobloch, Ebata, McGlaughlin, & Olgosky, 2013; Knobloch & Theiss, 2011), which in turn may escalate their difficulty with reintegration. Evidence of mediation would pave the way for theoretical and clinical advances by identifying reunion uncertainty and reintegration interference from a partner as pathways through which mental health symptoms may contribute to adjustment problems upon reunion.

Two cross-sectional studies speak to the possibility of mediation. In a sample of civilian couples, relational uncertainty mediated the association between depressive symptoms and relationship satisfaction (Knobloch & Knobloch-Fedders, 2010). In a sample of military

personnel, relational uncertainty and interference from a partner mediated the negative association between depressive symptoms and relationship satisfaction (Knobloch & Theiss, 2011). This limited cross-sectional evidence highlights the need for a more rigorous test via all three mental health symptoms and both relationship processes across the transition.

Our goal is to synthesize theorizing about people's reintegration difficulty during the post-deployment transition. Based on the logic of the relational turbulence model and extant research, we expect that people's mental health symptoms (Hypothesis 1), reunion uncertainty (Hypothesis 2), and reintegration interference from a partner (Hypothesis 3) predict more reintegration difficulty at homecoming (H1a, H2a, H3a) and over time (H1b, H2b, H3b). We also predict that reunion uncertainty (Hypothesis 4) and reintegration interference from a partner (Hypothesis 5) mediate the association between people's mental health symptoms and their reintegration difficulty at homecoming and over time.

Method

U.S. military couples provided online data once per month for 8 consecutive months upon reunion, with service members and at-home partners completing the Wave 1 questionnaire within a week of homecoming (see Name Withheld, 2018 for a report from the same sample). Because the reunion period traditionally is defined to last for 6 months (Pincus, House, Christenson, & Adler, 2001), we chose 8 months to provide coverage beyond that window. The procedures were approved by the Institutional Review Boards of our universities and the Human Research Protection Office of the U.S. Army Medical Research and Materiel Command.

We recruited military couples by circulating announcements to (a) military family life professionals across the country, (b) installation newspapers serving all branches, and (c) social media outlets for military families. Military couples were eligible if (a) partners had separate

email accounts, (b) one or both partners had been deployed, and (c) both partners completed the first questionnaire within seven days of homecoming. The recruitment materials invited military couples to sign up for the study by email. Most military couples volunteered during deployment, but others signed up during the first few days after reunion.

Procedures

We emailed each person an introductory message inviting him or her to confirm consent. After both partners agreed to participate, we enrolled them in the study and emailed each person a unique login, a temporary password to be replaced by a permanent password of his or her choice, and a link to the first questionnaire. We sent reminder emails on the fourth day and the sixth day after reunion to individuals who had not yet completed the Wave 1 questionnaire, and the logins expired on the seventh day. Of the 587 military couples who enrolled, 555 completed the Wave 1 questionnaire within the allocated timeframe (94.5%), and 32 were eliminated because one or both partners did not provide Wave 1 data before the 7-day deadline.

The 555 military couples eligible for the remainder of the study received an email each month on the anniversary of their reunion date with a link to the next questionnaire. During each wave, we sent emails on the fourth day and the sixth day reminding participants to complete the questionnaire before it closed on the seventh day. Individuals received a $15 e-gift card for each wave they completed, along with a bonus $50 e-gift card if they completed all waves.

Participants

The sample included 1,110 individuals (554 men, 556 women) involved in a romantic relationship (554 cross-sex couples, 1 same-sex couple). Participants lived in 44 U.S. states, the District of Columbia, and Guam. They identified as Caucasian (81%), Latino/a (10%), African American (4%), Asian or Pacific Islander (3%), or American Indian or Alaskan Native (2%).

They ranged in age from 19 to 59 years old (*M* = 31.18 years, *SD* = 6.39 years). Their level of education included some high school (1%), high school graduate (13%), some college (31%), associate's degree (15%), bachelor's degree (28%), or advanced graduate degree (12%).

Most military couples were married (95%), involved in their first marriage (77%), cohabiting upon reunion (96%), and parents (71%). The average length of their romantic relationship was 8.43 years (*SD* = 5.40 years). Most military couples had an annual household income of $21,000 to $40,000 (23%), $41,000 to $60,000 (32%), or $61,000 to $80,000 (18%).

Most returning service members were men (99%). They were affiliated with the U.S. Army (40%), Navy, (21%), Marines (18%), Air Force (10%), Army National Guard (8%), Air National Guard (2%), or Coast Guard (1%). Some returning service members reported on their first deployment (30%), but others had completed one (24%) or more (two = 17%, three = 13%, four = 8%, five or more = 8%) prior deployments. The average length of their deployment was 7.71 months (*SD* = 2.31 months), and the primary mission of their deployment was combat (60%), peacekeeping (17%), training (15%), relief (3%), or undisclosed (5%). The majority of at-home partners were women (99%). Most at-home partners were civilians (88%), but others were current (5%) or former (7%) military personnel themselves.

On average, individuals completed the Wave 1 questionnaire 4.27 days (*SD* = 1.81 days) after homecoming. Participation rates were satisfactory across waves (Wave 2 = 91%, Wave 3 = 92%, Wave 4 = 88%, Wave 5 = 89%, Wave 6 = 88%, Wave 7 = 86%, Wave 8 = 88%).

Instrumentation

We selected close-ended measures that demonstrated sound psychometric properties in prior research. As a safeguard, for all of the multi-item scales without available population norms, we conducted confirmatory factor analysis to verify the unidimensionality of the factor

structure with model fit criteria set at CFI > .950 and RMSEA < .060 (per Hu & Bentler, 1999). We assessed two core covariates and 18 secondary covariates for the sake of comprehensiveness.

Measures of Covariates

Combat exposure during deployment. Returning service members responded to Keane et al.'s (1989) Combat Exposure Scale at Wave 1, and following Renshaw, Rodrigues, and Jones (2008, p. 588), at-home partners responded to the same items at Wave 1 with instructions to provide their best understanding of their partner's experiences during deployment. Sample items include: (a) went on combat patrols, (b) fired rounds at the enemy, and (c) was in danger of being injured or killed (0 = *never*, 4 = *51 or more times*). We computed a score for each individual as the average of the responses to the seven items (M = 0.51, SD = 0.64, range = 0.00 to 4.00, α = .75, CFI = .964, RMSEA = .058).

Relationship satisfaction. A second core covariate was people's Wave 1 relationship satisfaction. It was assessed by the 4-item Couples Satisfaction Index (Funk & Rogge, 2007). Sample items include: (a) please indicate the degree of happiness, all things considered, of your relationship (0 = *extremely unhappy*, 6 = *perfect*), and (b) how rewarding is your relationship with your partner? (0 = *not at all*, 5 = *completely*). The measure was calculated as the sum of the responses (M = 17.20, SD = 3.32, range = 2.00 to 21.00, α = .83, CFI = .987, RMSEA = .051).

Secondary covariates. Closed-ended items measured 18 secondary covariates indexing individual, methodological, relationship, and military characteristics at Wave 1. The individual attributes were (a) sex, (b) race, (c) age, and (d) education. The methodological characteristics were (a) number of days elapsed between reunion and participation in Wave 1, and (b) version of the measures of depressive and anxiety symptoms (described in the following section). The relationship attributes were (a) household income, (b) relationship length, (c) marital status, (d)

prior marriage for the returning service member, (e) prior marriage for the at-home partner, (f) living together in the same residence upon reunion, and (g) the presence of children. The military characteristics were (a) branch, (b) dual-military couple status, (c) first versus multiple deployments, (d) deployment length, and (e) mission type.

Measures of Independent Variables

Depressive symptoms. Individuals completed one of two measures of depressive symptoms at Wave 1. The first half of the sample (n = 268 couples) received the Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996), but because of the considerable licensing fees required to administer the BDI-II at each wave, the second half of the sample (n = 287 couples) received the Center for Epidemiologic Studies Depression Scale Revised (CESD-R; Eaton, Smith, Ybarra, Muntaner, & Tien, 2004). Participants rated the severity of a list of symptoms (21 for the BDI-II, 20 for the CESD-R). Sample items from the CESD-R include: (a) I could not shake off the blues, (b) nothing made me happy, and (c) I felt depressed.

We put the scales on a common metric by calculating the percent of maximum possible score (POMP) for each item before summing scores across items (Cohen, Cohen, Aiken, & West, 1999). The POMP metric is superior to other conversion strategies for three reasons. First, it employs a simple linear transformation tied to the scale's original units. Second, it is not dependent on the sample or the population at large. Third, it outperforms other strategies for comparing different measures of the same construct (Cohen et al., 1999). Independent samples t tests showed no difference between the POMP scores for the two versions of the measure for at-home partners, $t(553) = -0.35$, $p = .728$, but returning service members reported less depressive symptoms on the BDI-II than the CESD-R, $t(553) = -2.09$, $p = .037$. Consequently, we controlled for the version of the measure in our substantive analyses.

The average POMP score for depressive symptoms was 11.84 (*SD* = 12.93, range = 0 to 100, BDI-II α = .92, CESD-R α = .90), with 158 individuals (14%) reporting scores that met or exceeded clinical cutoffs for mild to moderate depression (Beck et al., 1996; Radloff, 1977).

Anxiety symptoms. People responded to one of two scales measuring anxiety symptoms at Wave 1. The first half of the sample (*n* = 268 couples) completed the 21-item Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988). To reduce licensing costs, the second half of the sample (*n* = 287 couples) completed the 14-item anxiety subscale of the Depression, Anxiety, and Stress Scale (DASS; Lovibond & Lovibond, 1995). Both scales asked participants to rate how much they were bothered by symptoms during the past week. Example items from the DASS include: (a) feeling terrified, (b) difficulty breathing, and (c) feeling close to panic.

We converted the two measures into a common metric using POMP scaling procedures (*M* = 6.80, *SD* = 10.27, range = 0 to 90, BAI α = .90, DASS α = .83). Fifteen percent of the sample (*n* = 162 individuals) met or exceeded the clinical cutoff scores for mild to moderate anxiety at Wave 1 (Beck et al., 1988; Lovibond & Lovibond, 1995). Both returning service members, $t(553) = 2.21$, $p = .028$, and at-home partners, $t(553) = 4.86$, $p < .001$, reported higher POMP scores on the BAI than the DASS, so we covaried the version of the measure in our substantive analyses.

Posttraumatic stress symptoms. Individuals responded to the 17-item Posttraumatic Stress Checklist (Weathers, Litz, Herman, Huska, & Keane, 1993) at Wave 1. Returning service members completed the military version (PCL-M) by rating the degree to which they had experienced symptoms related to stressful military experiences during the past month. At-home partners completed the civilian version (PCL-C), which is identical except that it refers to stressful experiences in general. Sample items from the PCL-C include: (a) feeling very upset

when something reminded you of a stressful experience; (b) repeated, disturbing memories, thoughts, or images of a stressful experience; and (c) avoiding activities or situations because they reminded you of a stressful experience (1 = *not at all*, 5 = *severely*). We summed the items to form the measure (M = 25.90, SD = 11.57, range = 17 to 85, α = .93). In total, 9% of the sample (n = 102 individuals) reported scores that met or exceeded recommended clinical cutoff values for mild to moderate posttraumatic stress (Ruggiero, Del Ben, Scotti, & Rabalais, 2003).

Reunion uncertainty. Participants reported their Wave 1 reunion uncertainty via Knobloch, McAninch, et al.'s (2016) measure.[1] Six reverse-scored unidimensional items were prefaced by the stem "How certain are you about …?" (1 = *completely uncertain*, 6 = *completely certain*): (a) how to readjust to being together, (b) how to redistribute household chores, (c) how to get to know each other again, (d) how to be sexually intimate after the time apart, (e) how to assess your partner's health and well-being, and (f) how to communicate with your partner (M = 2.09, SD = 1.04, range = 1 to 6, α = .92, CFI = .984, RMSEA = .051).

Reintegration interference from a partner. Individuals responded to Knobloch, McAninch, et al.'s (2016) measure at Wave 1. Six unidimensional items began with the stem "My partner …" (1 = *strongly disagree*, 6 = *strongly agree*): (a) disrupts my everyday routine and schedule, (b) interferes with my ability to make my own decisions, (c) makes me feel smothered, (d) has become a different person since the deployment, (e) disrupts my social life with family and friends, and (f) makes me wish we had more time to spend together (M = 2.19, SD = 0.88, range = 1 to 6, α = .72, CFI = 0.980, RMSEA = .054).[2]

Measure of Dependent Variable

Difficulty with reintegration. Participants reported their difficulty with reintegration at each wave via Chandra et al.'s (2011) measure. Six unidimensional items completed the stem

"Since I/my partner returned home from deployment, I have …" (1 = *strongly disagree*, 7 = *strongly agree*): (a) had problems getting to know my partner again, (b) had difficulty adjusting to having my partner be part of my daily routine, (c) had trouble dealing with my partner's mood changes, (d) worried about the possibility of another deployment, (e) had problems figuring out who to turn to for advice, and (f) had trouble rebalancing household tasks (Wave 1 $M = 2.54$, $SD = 1.31$, range = 1 to 7, $\alpha = .79$, CFI = .977, RMSEA < .060).

Results

Preliminary Analyses

In a first preliminary analysis, we computed paired samples *t* tests comparing the Wave 1 reports of returning service members (RSM; $n = 555$) versus at-home partners (AHP; $n = 555$). Results for the core covariates showed that returning service members reported more combat exposure during deployment than at-home partners thought they had experienced (see Table 1). Findings for the independent and dependent variables revealed that at-home partners, compared to returning service members, reported more mental health symptoms, reunion uncertainty, and difficulty with reintegration.

We also examined Wave 1 bivariate correlations (see Table 2). For both returning service members and at-home partners, mental health symptoms, reunion uncertainty, reintegration interference from a partner, and difficulty with reintegration were positively correlated and shared negative associations with relationship satisfaction.

Substantive Analyses

Unconditional models. We performed the substantive analyses in four steps using structural equation modeling to estimate dyadic growth curves (Kenny, Kashy, & Cook, 2006; Peugh, DiLillo, & Panuzio, 2013). In a descriptive first step, we examined an unconditional

model without predictors to map the trajectory of reintegration difficulty across the eight waves. The unconditional model included dyadic growth curves for returning service members and at-home partners and contained correlations (a) between the intercepts and slopes within couples, and (b) between the residuals within couples at each wave (see online supplement Figure A).

The observed means suggested that both returning service members and at-home partners experienced an initial increase in reintegration difficulty followed by a decline over time (see Figure 1), but only the linear decrease was statistically significant in the estimated trajectory (see Table 3). Both the intercepts and the linear slopes contained variability and were positively correlated between partners. Returning service members and at-home partners differed in their intercepts (Wald test = 13.91, $p < .001$) but not their linear slopes (Wald test = 2.25, $p = .134$).

Preliminary conditional models. In a second step, we computed five preliminary conditional growth curve models containing one substantive predictor, the two core covariates, and the 18 secondary covariates. The purpose of these preliminary conditional models was to examine how each of the mental health symptoms and relationship processes predict difficulty with reintegration beyond the core covariates and secondary covariates.

We constructed the models to examine both *actor effects* and *partner effects* (Kenny et al., 2006) as depicted in online supplement Figure B. More specifically, we modeled the substantive predictors, core covariates, and secondary covariates as independent variables predicting each person's intercept and linear slope.[3] We also grand-mean centered the continuous predictors to facilitate interpretation of the intercepts.

The models showed appropriate fit (Table 4). For the intercepts, actor effects consistent with our predictions revealed that returning service members and at-home partners who reported more mental health symptoms (H1a), reunion uncertainty (H2a), or reintegration interference

from a partner (H3a) experienced more difficulty with reintegration at Wave 1. For the slopes, actor effects contrary to our hypotheses showed that returning service members who reported more anxiety symptoms or posttraumatic stress symptoms, and at-home partners who reported more depressive symptoms, experienced a steeper decline in difficulty with reintegration over time (H1b). Similarly, returning service members and at-home partners who reported more reunion uncertainty (H2b) or reintegration interference from a partner (H3b) experienced a steeper decline in difficulty with reintegration over time.

Partner effects emerged as well (see Table 4). When an individual reported more depressive symptoms or reunion uncertainty, his or her partner reported more difficulty with reintegration at Wave 1. Moreover, when returning service members reported more anxiety symptoms and posttraumatic stress symptoms, at-home partners reported more difficulty with reintegration at Wave 1. Finally, when at-home partners reported more reintegration interference from a partner, returning service members experienced more difficulty with reintegration at Wave 1 and a steeper decline over time. Together, the predictors accounted for 40% to 63% of the variance in the intercepts and 13% to 25% of the variance in the slopes.

Final conditional models. Next, we estimated final conditional models containing the five independent variables, two core covariates, and 18 secondary covariates (see online supplement Figure C). Again, we evaluated actor and partner effects and grand-mean centered the continuous predictors.

Actor effects (see Table 5) indicated that posttraumatic stress symptoms for returning service members, and depressive symptoms for at-home partners, coincided with more difficulty with reintegration at Wave 1 (H1a). For both partners, reunion uncertainty and reintegration

interference from a partner were positive predictors at Wave 1 (H2a, H3a) and corresponded with a steeper decline over time (H2b, H3b).

Two partner effects surfaced. When an individual experienced reunion uncertainty, his or her partner reported more difficulty with reintegration at Wave 1 (RSM standardized $\beta = .11$, $p < .05$; AHP $\beta = .12$, $p < .01$). When at-home partners experienced more reintegration interference from a partner, returning service members experienced a steeper decline in their difficulty with reintegration over time ($\beta = -.20$, $p < .05$).

In sum, results supported our hypotheses about the magnitude of reintegration difficulty (H1a, H2a, H3a) but contradicted our logic about the change over time (H1b, H2b, H3b). The total variance explained was 73% to 76% for the intercepts and 26% to 27% for the slopes.

Tests of mediation. In a final step, we evaluated the indirect effects of mental health symptoms on difficulty with reintegration through relational uncertainty and reintegration interference from a partner. We employed a bootstrap approach using 5,000 draws to estimate indirect effects and bias-corrected confidence intervals (Hayes, 2013).

Mediation actor effects emerged for both depressive and posttraumatic stress symptoms (see graphic in Figure 2). For both partners, depressive symptoms were indirectly linked to the intercepts through both reunion uncertainty (RSM unstandardized $ab = .009$, $p = .001$, 95% CI [.005, .016]; AHP $ab = .011$, $p < .001$, 95% CI [.006, .018]) and reintegration interference from a partner (RSM $ab = .010$, $p = .006$, 95% CI [.004, .017]; AHP $ab = .004$, $p = .035$, 95% CI [.001, .009]). For at-home partners, posttraumatic stress symptoms were indirectly linked to the intercept through reintegration interference from a partner (AHP $ab = .006$, $p = .002$, 95% CI [.003, .011]). These results suggest mediation for the intercepts but not the slopes (H4, H5).

Discussion

In contrast to media depictions of homecoming as the start of a happily-ever-after storyline, some scholars speculate that reunion can be harder for military families to navigate than deployment itself (Huebner, Mancini, Wilcox, Grass, & Grass, 2007; Mmari, Roche, Sudhinaraset, & Blum, 2009). We sought to advance the literature by conceptually and empirically synthesizing predictors of people's difficulty with reintegration. Data from an 8-wave longitudinal study of 555 military couples indicated that relationship processes mediated the effects of people's mental health symptoms on their difficulty with reintegration.

Understanding Difficulty with Reintegration

On a descriptive level, our findings map the post-deployment transition (see Figure 1). Speculation existed in the literature that the transition begins with a celebratory phase marked by intense joy and overwhelming excitement (i.e., a honeymoon period) that is replaced by emerging distress as the hassles of everyday life crop up (Milliken et al., 2007; Pincus et al., 2001). Our findings depicted a slightly different trajectory. Military couples in our sample reported a slight uptick in reintegration difficulty at Wave 2, but by Wave 8 their levels of reintegration difficulty approximated their Wave 1 levels (e.g., a return to baseline of the first week home). More broadly, our findings imply the best time for intervention efforts. Rather than offering clinical services immediately after homecoming, when the information may not be as relevant, such programs may be most timely during the second or third month following reunion.

Our results also offer a more nuanced view of people's mental health symptoms during the post-deployment transition. When examined separately (see Table 4), depressive symptoms, anxiety symptoms, and posttraumatic stress symptoms corresponded with more reintegration difficulty upon reunion (H1a), which coheres with prior work considering them in isolation

(Blais et al., 2009; Sayers et al., 2009). When examined together alongside the covariates and relationship processes, posttraumatic stress symptoms for returning service members and depressive symptoms for at-home partners continued to predict reintegration difficulty (see Table 5). These findings make sense given that posttraumatic stress symptoms are a common response to the harrowing circumstances that can characterize combat, peacekeeping, and relief missions (Sundin, Fear, Iversen, Rona, & Wessely, 2010), and depressive symptoms are a common response to the loneliness and worry that can accompany a loved one's journey into harm's way (Meadows et al., 2016; Verdeli et al., 2011). Moreover, depressive symptoms are more prevalent among women (who comprised 99% of our sample of at-home partners) than men (Kessler, 2003). Clinically, our findings suggest that interventions designed to maximize gains amid limited resources may do well to target posttraumatic stress symptoms for returning service members and depressive symptoms for at-home partners.

Another contribution lies in evaluating the relationship processes emphasized by the relational turbulence model. The model proposes that individuals experience upheaval during times of transition because they are uncertain about their relationship and disrupt each other's daily routines (Solomon & Theiss, 2011). Both reunion uncertainty (H2a) and reintegration interference from a partner (H3a) predicted the magnitude of people's difficulty with reintegration. These results were remarkably consistent: Not only did they hold for both partners, but they held when the predictors were examined separately (see Table 4) as well as in combination with the covariates, mental health symptoms, and each other (see Table 5). The uniformity across all tests implies that reunion uncertainty and reintegration interference from a partner may play a role in the adjustment of military couples upon reunion.

Our study afforded a rare opportunity to compare people's experiences within couples. Much of the prior work on reunion after deployment has privileged either (a) returning service members separately from at-home partners (Bommarito et al., 2017; Sherman et al., 2015), or (b) individuals rather than military couples (Gorman et al., 2011; Theiss & Knobloch, 2014). Both sampling strategies can mask the extent to which the experiences of individuals are intertwined within dyads. In our sample, at-home partners reported more mental health symptoms, reunion uncertainty, and reintegration difficulty than returning service members (see Table 1). These findings are consistent with research illustrating the distress of military spouses (Sahlstein, Maguire, & Timmerman, 2009) and underscore the importance of ensuring they have adequate social support (Skomorovsky, 2014; see also Easom, Wang, Moore, Wang, & Bauer, 2018). Moreover, our data demonstrate that how returning service members and at-home partners fare across the transition is at least partially contingent on each other's well-being. For example, when either person reported more reunion uncertainty, the other person experienced more reintegration difficulty at homecoming. These partner effects highlight the need for more sophisticated theorizing about within-couple dynamics during times of transition (Solomon et al., 2016). They also imply that prevention and intervention efforts should target military couples rather than returning service members or at-home partners in isolation (e.g., Erbes, Polusny, MacDermid, & Compton, 2008; Sayers, 2011).

An unexpected aspect of our findings involved how people's mental health symptoms and relationship processes predicted changes in reintegration difficulty over time. Opposite hypotheses, more reunion uncertainty (H2b) and reintegration interference from a partner (H3b) corresponded with a steeper decline in reintegration difficulty across waves. In other words, individuals experiencing more questions and disruptions at homecoming reported a greater drop

in adjustment problems over time. A methodological explanation is that the findings are a statistical artifact reflecting the "law of initial values" (Wilder, 1967) such that higher starting values portend a steeper decline over time because those scores have further to fall. Indeed, studies of marriage using growth curve techinques commonly report such a trend via a negative correlation between people's intercept and slope (e.g., Cui & Donnelan, 2009). Notably, however, the negative correlations between the intercepts and slopes in our data did not ameliorate the magnitude of effects: People experiencing higher levels of reintegration difficulty at Wave 1 still reported higher levels at Wave 8 despite experiencing a more precipitous drop across the latter waves. A conceptual explanation is that military couples who reunite with more more acute mental health symptoms and relationship problems are more likely to seek help, although stigma is still a barrier to care (e.g., Kim et al., 2010; Milliken et al., 2007). Both explanations remain speculative without additional data, so we recommend further research on the mechanisms underlying changes in reintegration difficulty across the transition.

Regarding the primary goal of our study, we documented relationship processes as mediators of the link between people's mental health symptoms and their reintegration difficulty (see Figure 2). These findings pave the way for advances in theory, research, and practice. With respect to theory, our results highlight the value of expanding logic about relational turbulence to integrate mental health symptoms (e.g., Knobloch & Theiss, 2011). With respect to research, our data emphasize the utility of juxtaposing predictors from a variety of domains when examining post-deployment outcomes (e.g., Meadows et al., 2016). With respect to practice, our findings imply that bolstering the well-being of romantic relationships could help protect military couples from the harmful effects of mental health symptoms during the transition (Balderrama-Durbin et

al., 2017; Erbes et al., 2008) and underscore the climate of romantic relationships as a target of intervention to assist military couples upon homecoming (Meadows et al., 2016; Sayers, 2011).

Our project also expands the relational turbulence model. Methodologically, our research design surpasses all previous tests of the model in terms of sample size, number of observations, and geographic locale of participants (cf. Knobloch & Theiss, 2010; Solomon & Theiss, 2008; Theiss, Estlein, & Weber, 2013). It also exceeds prior work on the model with military couples in terms of branch affiliation and scope of measurement (cf. Knobloch, McAninch, et al., 2016; Knobloch & Theiss, 2011). Conceptually, our study is the first to pursue theoretical synthesis among a host of mental health symptoms and relationship processes. Our results imply that the model has some explanatory power for understanding reintegration after deployment. Not only is such confirmation useful for a literature that has been primarily descriptive thus far (Knobloch & Theiss, 2017), but it also opens the door to sustained contributions via the conceptual organization of findings and the execution of programmatic research.

Clinical Implications

Clinically, our finding suggest several empirically-grounded recommendations to help military couples during the post-deployment transition. First, our results showing that at-home partners reported more challenges than returning service members (see Table 1) emphasize the importance of supporting individuals who stay behind. Given that society at large tends to render the sacrifices of at-home partners largely invisible (e.g., Harrell, 2000), offering clinical services for them is particularly important. Second, our data mapping the trajectory of reintegration difficulty (see Figure 1) imply that clinical efforts may be most germane during the second or third month following reunion rather than right after homecoming (when support may not seem necessary) or several months afterwards (when challenges may be entrenched). Clinicians and

chaplains involved with sequenced outreach programs, such as the Yellow Ribbon Reintegration Program for National Guard and reserve service members (e.g., Scherrer et al., 2014), could consider the trajectory of reintegration difficulty when charting their course of treatment.

With respect to the content of prevention and intervention services, our findings point to reunion uncertainty and reintegration interference from a partner as relationship processes to consider – alongside posttraumatic stress symptoms for returning service members and depressive symptoms for at-home partners – when assisting military couples during the post-deployment transition (see Table 5). Clinicians may have success boosting the well-being of military couples upon homecoming by helping them work through their questions and troubleshoot disruptions to their everyday goals (e.g., Solomon et al., 2016). More broadly, our results for mediation (see Figure 2) point to romantic relationships as a target of intervention to buffer military couples from the negative consequences of mental health symptoms after deployment. Finally, because people's reintegration difficulty was predicted by both their own experiences (actor effects) and their partner's experiences (partner effects), clinicians may be most effective by involving both returning service members and at-home partners in treatment (e.g., Erbes et al., 2008).

Strengths, Limitations, and Directions for Future Research

Our study possesses both strengths and weaknesses for drawing conclusions about the post-deployment transition. A strength lies in considering a myriad of covariates and independent variables. Juxtaposing three mental health symptoms with two relationship processes, for example, furnished information about their relative predictive power not provided by prior work examining one or two constructs in isolation (e.g., Knobloch, Ebata, McGlaughlin, & Ogolsky, 2013; Knobloch & Theiss, 2011). Another advantage is that our sample contained

both members of military couples. Compared to previous investigations recruiting individuals (e.g., Brenner et al., 2015; Knobloch & Theiss, 2011; Sahlstein et al., 2009), our dyadic data revealed both similarities and differences between returning service members versus at-home partners. Third, the study's longitudinal approach permitted mapping of the transition over time in ways not feasible by cross-sectional designs (Knobloch & Theiss, 2011) or shorter longitudinal designs (Knobloch, Ebata, McGlaughlin, & Ogolsky, 2013).

A chief limitation is that our study began at homecoming rather than before or during deployment. Data collected from military couples before reunion would have permitted us to distinguish between enduring vulnerabilities and emerging stress during the transition (e.g., Blow et al., 2017).[4] Second, we followed the logic of the relational turbulence model and the literature on reunion after deployment to evaluate people's mental health symptoms and relationship processes as predictors rather than outcomes of reintegration difficulty (e.g., Balderrama-Durbin et al., 2017; Knobloch, Ebata, McGlaughlin, & Ogolsky, 2013). Future research should examine the possibility of bidirectionality. Third, active duty military couples comprised 90% of our sample, which did not permit a reasonable test of whether National Guard and reserve component military couples have unique experiences (e.g., Podlogar et al., 2017). Finally, we utilized convenience sampling strategies rather than the more sophisticated random sampling techniques employed by recent large-scale investigations of military life (e.g., Meadows et al., 2016), and individuals in our convenience sample reported relatively low levels of dysfunction. Population-level data are needed to illuminate the magnitude of reintegration difficulty experienced by returning service members and at-home partners during the transition.

A final direction for future research involves broadening the focus from military couples to military families. Just as our study sought to document the trajectory of reintegration difficulty

among returning service members and at-home partners during the transition from deployment to reunion, knowledge gaps exist about how military children experience a parent's homecoming (Meadows et al., 2016). Both parental mental health (Chandra et al., 2010) and romantic relationship processes (Knobloch, Knobloch-Fedders, Yorgason, Ebata, & McGlaughlin, 2017) are likely to play a role in military children's outcomes. Subsequent work that builds on our findings would be helpful for continuing to identify data-driven recommendations to support military families during the post-deployment transition.

Conclusion

The challenges of deployment do not end when service members return home from their mission (Gorman et al., 2011; Karakurt et al., 2013; Theiss & Knobloch, 2014). We used the relational turbulence model to integrate theorizing about mental health symptoms and relationship processes as predictors of the reintegration difficulty of returning service members and at-home partners upon reunion. Our data tracking the trajectory of reintegration difficulty imply that military couples may benefit from help during the second or third month following homecoming. Our results also identify reunion uncertainty and reintegration interference from a partner as relationship processes to address in clinical services.

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Notes

[1] Our project did not require participants to be parents (unlike the study by Knobloch, McAninch, et al., 2016), so we omitted the item referencing parenting for the measures of reunion uncertainty, reintegration interference from a partner, and difficulty with reintegration.

[2] Based on the results of confirmatory factor analyses, we eliminated one item ("makes it harder for me to complete household chores") because of lack of fit.

[3] We reduced the number of parameters to be estimated by representing the six categorical secondary covariates as single dummy-coded variables: (a) sex (1 = male, 0 = female); (b) race (1 = white, 0 = non-white); (c) version of the measures of depressive symptoms and anxiety symptoms (1 = BDI-II and BAI, 0 = CESD-R and DASS); (d) marital status (1 = married, 0 = not married); (e) military branch (1 = active duty Army, 0 = all other branches); and (f) mission during deployment (1 = combat mission, 0 = non-combat mission). Because 99.8% of the military couples in the sample were heterosexual, we covaried only the sex of the returning service member.

[4] Our original research design called for a wave of data collection during deployment, but those plans were cancelled when the U.S. Central Command issued an order to eliminate human subjects research for service members in theatre by May 2014.

Table 1

Paired Samples T Tests Comparing Returning Service Members and At-Home Partners at Wave 1

		Returning Service Members		At-Home Partners		
	Range	*M*	(*SD*)	*M*	(*SD*)	*t*(554)
Combat Exposure	0 - 4	0.54	(0.64)	0.48	(0.64)	2.97**
Relationship Satisfaction	2 - 21	17.27	(3.08)	17.12	(3.54)	0.94
Depressive Symptoms	0 - 100	10.16	(11.36)	13.52	(14.13)	-4.90***
Anxiety Symptoms	0 - 90	5.00	(8.35)	8.59	(11.61)	-6.59***
Posttraumatic Stress Symptoms	17 - 85	24.21	(10.15)	27.59	(12.63)	-5.45***
Reunion Uncertainty	1 - 6	2.02	(0.98)	2.16	(1.09)	-2.85**
Reintegration Interference	1 - 6	2.18	(0.90)	2.20	(0.87)	-0.36
Difficulty with Reintegration	1 - 7	2.46	(1.31)	2.63	(1.31)	-2.80**

N = 555 military couples.

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

Table 2

Bivariate Correlations at Wave 1 for Returning Service Members, At-Home Partners, and Military Couples

	V1	V2	V3	V4	V5	V6	V7	V8
V1: Combat Exposure	.75***	-.10*	.12**	.14**	.25***	.11*	.06	.08
V2: Relationship Satisfaction	-.04	.37***	-.22***	-.23***	-.19***	-.61***	-.42***	-.45***
V3: Depressive Symptoms	.07	-.33***	.20***	.65***	.68***	.37***	.28***	.36***
V4: Anxiety Symptoms	.06	-.18***	.64***	.20***	.70***	.29***	.21***	.32***
V5: Posttraumatic Stress Symptoms	.05	-.30***	.73***	.73***	.19***	.28***	.20***	.33***
V6: Reunion Uncertainty	.05	-.60***	.44***	.23***	.37***	.33***	.49***	.63***
V7: Reintegration Interference	.05	-.50***	.42***	.30***	.44***	.55***	.20***	.63***
V8: Difficulty with Reintegration	.09*	-.50***	.52***	.35***	.47***	.70***	.64***	.37***

Note. $N = 555$ returning service members, at-home partners, or military couples. Wave 1 bivariate correlations for returning service members appear above the diagonal, Wave 1 bivariate correlations for at-home partners appear below the diagonal, and Wave 1 within-couple correlations appear on the diagonal and are underlined.

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

Table 3

Growth Parameters for the Unconditional Model Predicting Difficulty with Reintegration

	Difficulty with Reintegration			
	Returning Service Members		At-Home Partners	
	Estimate	Variance	Estimate	Variance
Intercept	2.55***	1.15***	2.77***	1.37***
Linear Slope	-0.02**	0.02***	-0.04***	0.02***
r of Intercept and Linear Slope	-0.27***	---	-0.26***	---

Note. $N = 555$ military couples. Model fit: $\chi^2(114) = 343.58$, CFI = .96, RMSEA = .06 [90% CI = .05 to .06]. Within-couple correlations: $r = .49$, $p < .001$ for the intercepts, $r = .49$, $p < .001$ for the linear slopes.

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

Table 4

Standardized Coefficients for the Preliminary Conditional Models Predicting Difficulty with Reintegration

	Model 1: Depressive Symptoms		Model 2: Anxiety Symptoms		Model 3: Posttraumatic Stress Symptoms		Model 4: Reunion Uncertainty		Model 5: Reintegration Interference	
	RSM	AHP	RSM	AHP	RSM	AHP	RSM	AHP	RSM	AHP
Actor Predictor of Intercepts	.36***	.48***	.33***	.32***	.35***	.41***	.63***	.67***	.54***	.53***
Actor Predictor of Slopes	-.08	-.16*	-.14*	-.01	-.14*	-.09	-.33***	-.39***	-.21**	-.27***
Partner Predictor of Intercepts	.10*	.08*	.05	.09*	.07	.09*	.15**	.17***	.08*	.08
Partner Predictor of Slopes	.06	-.02	.11	-.02	.03	-.03	-.02	-.09	-.17*	.06
R^2 intercept/slope	.43/.13	.52/.17	.40/.14	.42/.15	.42/.14	.48/.16	.56/.19	.63/.25	.54/.18	.53/.20

Note. N = 555 military couples. RSM = returning service member, AHP = at-home partner. Each model included one substantive predictor, two core covariates, and 18 secondary covariates. Fit indices were as follows: (a) Model 1: χ^2 (450) = 780.70, CFI = .95, RMSEA = .04 [90% CI = .03 to .04]; (b) Model 2: χ^2 (450) = 753.25, CFI = .95, RMSEA = .04 [90% CI = .03 to .04]; (c) Model 3: χ^2 (450) = 763.23, CFI = .95, RMSEA = .04 [90% CI = .03 to .04]; (d) Model 4: χ^2 (450) = 827.25, CFI = .94, RMSEA = .04 [90% CI = .04 to .04]; and (e) Model 5: χ^2 (450) = 862.20, CFI = .94, RMSEA = .04 [90% CI = .04 to .05].

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

Table 5

Standardized Coefficients for the Final Conditional Model Predicting Difficulty with Reintegration

	Difficulty with Reintegration	
	Returning Service Members	At-Home Partners
Actor Predictors of Intercepts		
Depressive Symptoms	.03	.19***
Anxiety Symptoms	.09	.01
Posttraumatic Stress Symptoms	.15**	.08
Reunion Uncertainty	.42***	.46***
Reintegration Interference	.39***	.28***
Actor Predictors of Slopes		
Depressive Symptoms	.14	-.09
Anxiety Symptoms	-.06	.13
Posttraumatic Stress Symptoms	-.13	.00
Reunion Uncertainty	-.28***	-.32***
Reintegration Interference	-.14*	-.16*
R^2 intercept/slope	.73/.26	.76/.27

Note. N = 555 military couples. The models included all of the substantive predictors and covariates. Statistically significant partner effects are reported in the text. Model fit: $\chi^2(546)$ = 1014.28, CFI = .93, RMSEA = .04 [90% CI = .04 to .04].

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

Figure 1

Observed Means for the Reintegration Difficulty of Returning Service Members and At-Home Partners Plotted across Waves

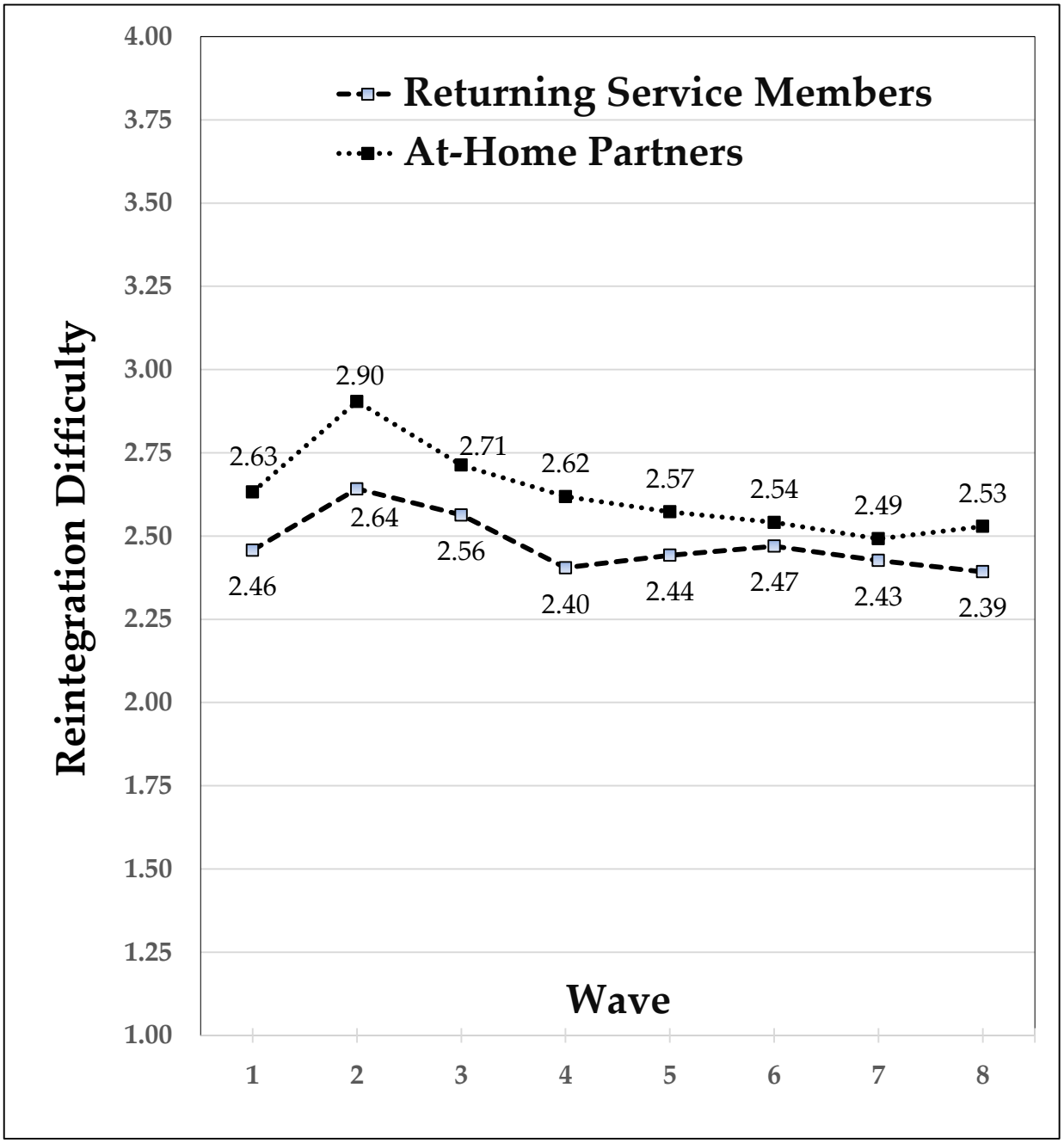
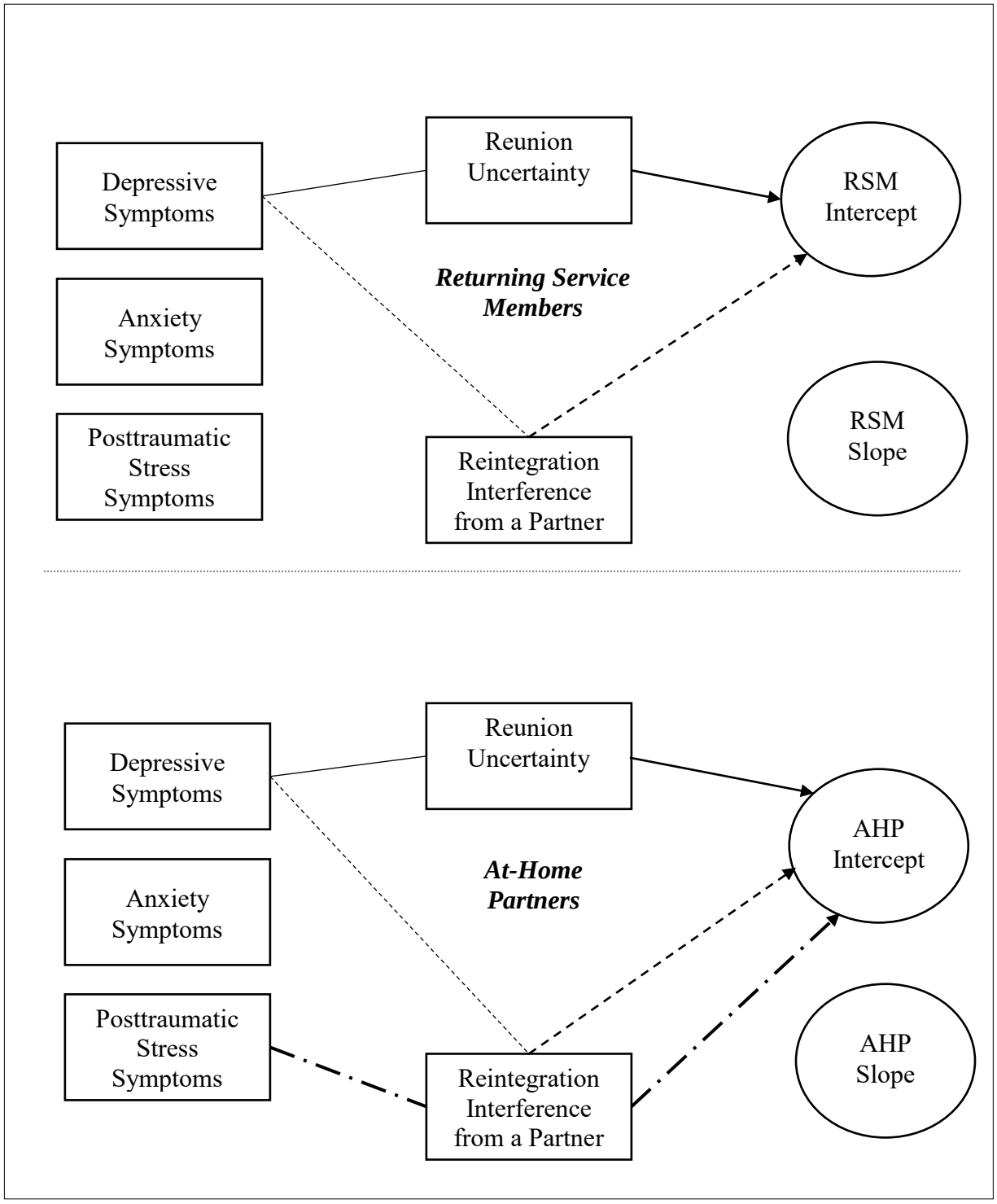
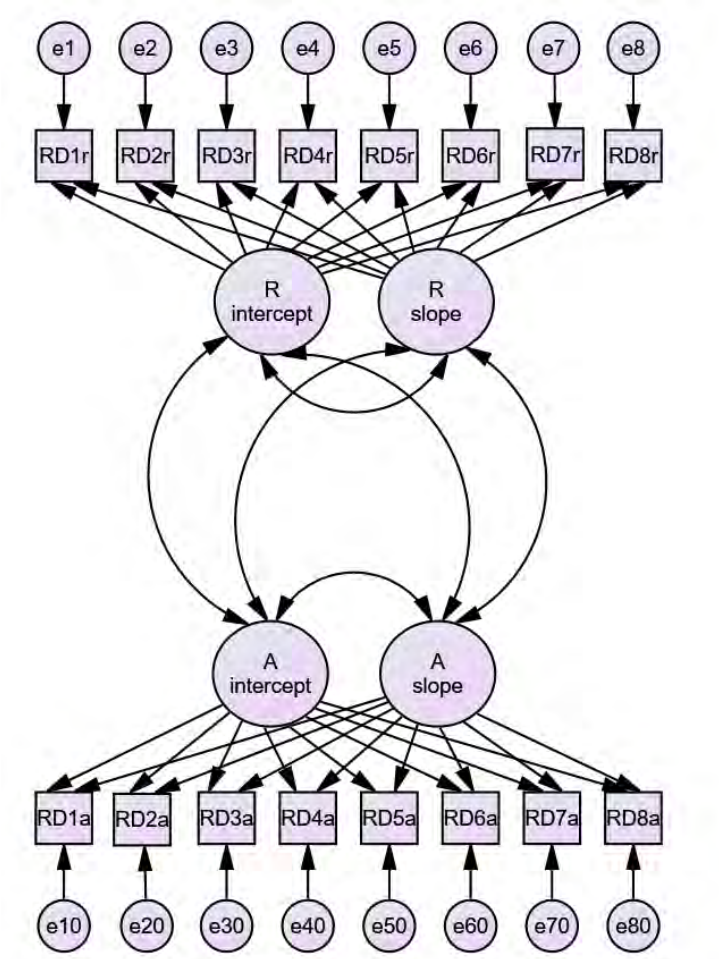


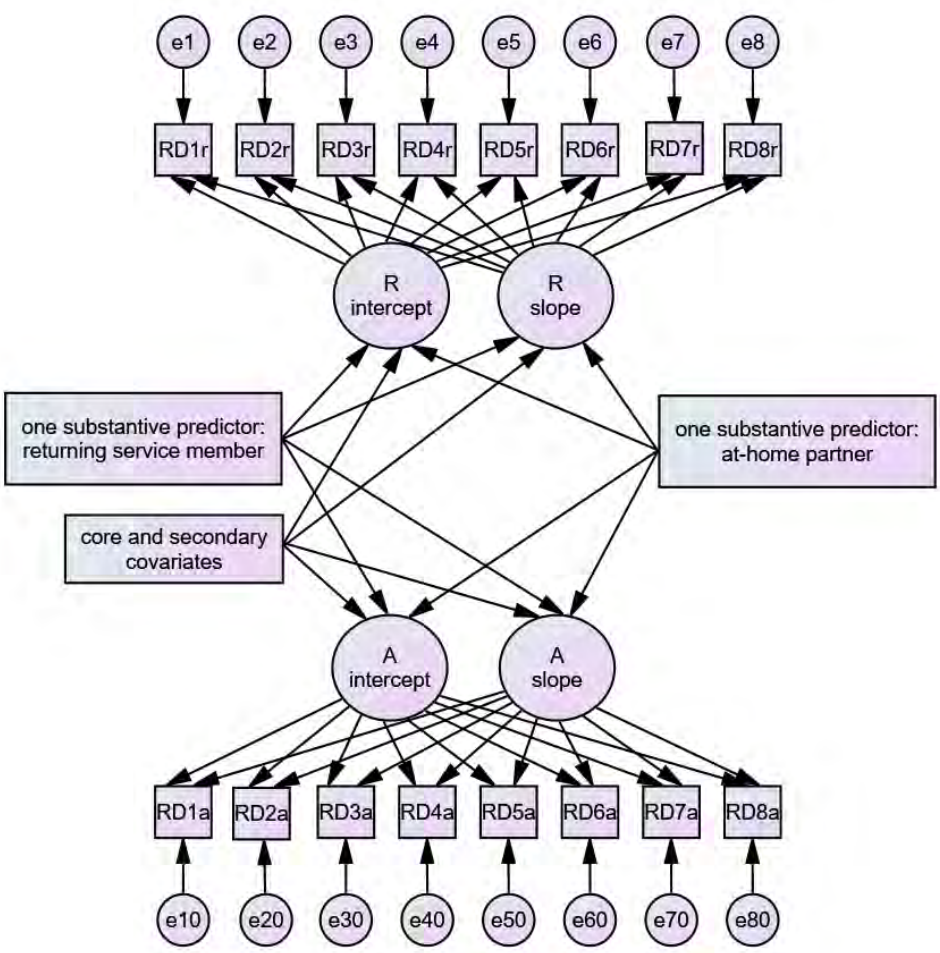
Figure 2

Indirect Associations of Mental Health Symptoms through Reunion Uncertainty and Reintegration Interference from a Partner Predicting Reintegration Difficulty

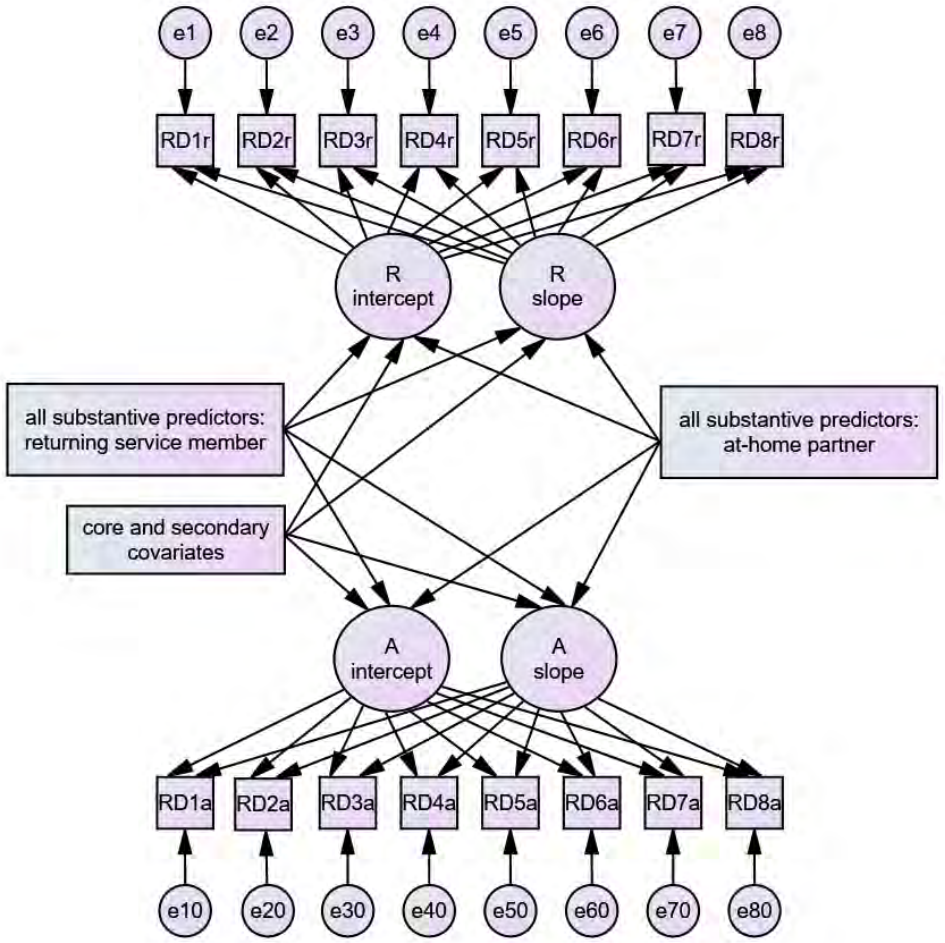




Online Supplement Figure A. Unconditional dyadic growth curve model. R = returning service member, A = at-home partner. For the sake of parsimony, the diagram omits the residual correlations across returning service members and at-home partners.



Online Supplement Figure B. Preliminary conditional dyadic growth curve model. R = returning member, A = at-home partner. The analysis included one substantive predictor, two core covariates, and 18 secondary covariates. For the sake of parsimony, the diagram omits the latent variable residuals and residual correlations.



Online Supplement Figure C. Final conditional growth curve model. R = returning service member, A = at-home partner. The analysis included five independent variables, two core covariates, and 18 secondary covariates. For the sake of parsimony, the diagram omits the latent variable residuals and residual correlations.

REINTEGRATION DIFFICULTY OF MILITARY COUPLES FOLLOWING DEPLOYMENT

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PROJECT SUMMARY

Homecoming after deployment can be challenging for military couples. Understanding the factors that contribute to the resilience of returning service members and at-home partners during the transition is essential for attracting and safeguarding the nation's best military personnel. The **goal of this project** was to evaluate how people's mental health and romantic relationship dynamics predict their difficulty with reintegration.

We collected online survey data from **555 military couples** (1,110 individuals) once per month for eight consecutive months beginning at homecoming. Participants reported on their communication during deployment and their experiences upon reunion. The sample included active duty, reserve, and National Guard service members from all branches.

RECOMMENDATIONS ABOUT REINTEGRATION AFTER DEPLOYMENT

MAJOR FINDING 1: Military couples reported experiencing the most difficulty with reintegration approximately **4 to 8 weeks after homecoming**.

- → A critical window may exist for the **timing of clinical outreach** during the transition from deployment to reunion.
- → Support for military couples may be especially helpful **4 to 8 weeks after homecoming**, after returning service members and their families settle in but before problems become entrenched.
- → In contrast, relationship programming offered immediately after homecoming or several months into the transition may be **less relevant** to military couples.

MAJOR FINDING 2: **At-home partners** reported more difficulty with reintegration than returning service members.

- → **Services for spouses** are important for preserving military family resilience.
- → Prevention and intervention programs should include outreach efforts **tailored** to the needs of at-home partners.

MAJOR FINDING 3: Military couples with **strong mental health** were resilient during the transition from deployment to reintegration. The **posttraumatic stress symptoms** of returning service members, and the **depressive symptoms** of at-home partners, were particularly powerful predictors of people's reintegration difficulty.

- → Providing **accessible mental health services**, and **de-stigmatizing** their usage, may bolster military family well-being upon reunion after deployment.
- → Military couples should **watch** for symptoms of depression, anxiety, and posttraumatic stress and **seek help** from a mental health professional if needed.
- → **Returning military personnel** may benefit from clinical programs targeting posttraumatic stress symptoms.
- → **At-home partners** may benefit from clinical programs targeting depressive symptoms.

MAJOR FINDING 4: Military couples fared better during the transition when they experienced **less uncertainty** about their romantic relationship and **less interference** in each other's daily routines.

- → **Questioning the relationship** and **getting in each other's way** may be problematic during the post-deployment transition.
- → Military couple functioning may be enriched by **addressing unresolved questions** and **troubleshooting disruptions** to everyday goals.
- → Clinicians should help military couples **communicate effectively about the questions** they have about their relationship.
- → Similarly, clinicians should help military couples **minimize their hindrance** in each other's daily routines.

CONCLUSIONS ABOUT REINTEGRATION AFTER DEPLOYMENT

1. Clinicians working with military couples should take into account the **trajectory of reintegration difficulty** when developing a treatment plan.
2. **Policies and programs** should attend to the needs of **at-home partners** in addition to returning service members during the transition from deployment to reintegration.
3. **Mental health services** and **relationship support** may enhance the resilience of military couples upon homecoming.

Source: Knobloch, L. K., Knobloch-Fedders, L. M., & Yorgason, J. B. (under review). *Mental health symptoms and the reintegration difficulty of military couples following deployment: A longitudinal application of the relational turbulence model.* Manuscript submitted for publication.

RECOMMENDATIONS ABOUT COMMUNICATION DURING DEPLOYMENT

MAJOR FINDING 1: The **tone of communication** between military personnel and at-home partners during deployment, more than than the **frequency of communication** between them, predicted their well-being after homecoming.

- → Rather than focusing on **how much** or **how often** they are communicating, military couples should attend to the **tone** of their communication during deployment.
- → **Communication skills training** offered before deployment may help prepare military couples for the challenges of staying connected during the time apart.

MAJOR FINDING 2: Military couples who **communicated constructively during deployment** (and **avoided communicating destructively during deployment**) reported less symptoms of anxiety at reunion.

- → Service members and at-home partners who engage in **positive exchanges** during deployment, and refrain from **negative exchanges** during deployment, may experience better outcomes when they are reunited.
- → Clinicians should teach military couples how to discuss challenging issues in a **friendly and upbeat way** while apart.

CONCLUSIONS ABOUT COMMUNICATION DURING DEPLOYMENT

1. Clinical outreach may have success targeting the **valence**, rather than the **frequency**, of communication between military couples during deployment.
2. **Constructive communication** between military couples during deployment is important for resilience after homecoming.

Source: Knobloch, L. K., Knobloch-Fedders, L. M., & Yorgason, J. B. (2018). Communication of military couples during deployment predicting generalized anxiety upon reunion. *Journal of Family Psychology, 32,* 12-21.

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RESILIENCE AFTER DEPLOYMENT

Investigating the transition from deployment to reunion

The return home of a service member after deployment can be challenging. Researchers at the University of Illinois and Marquette University conducted a study to better understand the experiences of military couples during the transition.

ABOUT THE STUDY

ONLINE SURVEY

555 military couples (1,110 individuals) participated in the study

PARTICIPANTS

Active duty, reserve component, and National Guard couples from all branches

TIMING

Reported once per month for 8 consecutive months after homecoming

FOUR MAJOR FINDINGS

COMMUNICATION IS KEY

Constructive *(not* ***destructive****) communication during deployment was helpful during reunion.*

SUPPORT SPOUSES

At-home partners *reported more reintegration difficulty than returning service members.*

TIMING MATTERS

Reintegration difficulty was highest ***4 to 8 weeks*** *after homecoming.*

RECOMMENDATIONS

Mental health treatment *and* ***relationship support*** *may help military couples upon reunion.*

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