


Spring 2014

# Coping with Emotions During Reintegration: An Evaluation of Service Members' Psychological Health

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GRADUATE SCHOOL  
Thesis/Dissertation Acceptance**

This is to certify that the thesis/dissertation prepared

By Christina M. Marini

Entitled

Coping with Emotions During Reintegration: An Evaluation of Service Members' Psychological Health

For the degree of Master of Science

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04/24/2014

Head of the Department Graduate Program

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COPING WITH EMOTIONS DURING REINTEGRATION: AN EVALUATION OF  
SERVICE MEMBERS' PSYCHOLOGICAL HEALTH

A Thesis

Submitted to the Faculty

of

Purdue University

by

Christina M. Marini

In Partial Fulfillment of the

Requirements for the Degree

of

Master of Science

May 2014

Purdue University

West Lafayette, Indiana

For my parents, who taught me at a young age that learning was “my job.”

## ACKNOWLEDGMENTS

I would like to express deep gratitude to my major professor, Dr. Shelley MacDermid Wadsworth. She has challenged me to answer my own questions and taught me, by example, that conducting research requires persistence. Her support and wisdom throughout this process were invaluable. I would also like to thank my committee members, Dr. Sharon Christ and Dr. Melissa Franks. I greatly appreciated their ideas, feedback, and enthusiasm for this project. In addition, I would like to acknowledge the members of the research team at the Military Family Research Institute (MFRI), particularly MFRI's research director, Dr. Dave Topp, as well as Jean-Francois Cardin, who helped me clean and prepare the data for analysis. I must give special thanks to Christopher, who has been both my toughest critic and my biggest cheerleader. Melissa, Deepika, and Christy have also provided me with endless optimism throughout this journey, and I am extremely grateful for their friendship. Last, but not least, I would like to recognize military families, not only for their sacrifices but also for their strengths.

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## ABSTRACT

Marini, Christina M. M.S., Purdue University, May 2014. Coping with Emotions During Reintegration: An Evaluation of Service Members' Psychological Health. Major Professor: Shelley MacDermid Wadsworth.

Upon returning home from deployment, service members are likely coping with strong emotions related to deployment stressors. In addition, service members and their intimate partners may be tasked with emotionally reconnecting with one another after an extended period of separation. Reintegration is therefore a critical, transitory time to evaluate associations between emotional coping strategies utilized by service members and their partners as predictors of service members' well-being. Previous research has indicated that service members' expression of emotions is positively related to their well-being post-deployment, whereas their avoidance is negatively related. These relationships were reevaluated in the current study. The current study adds to existing research by further assessing associations between partners' emotional coping and service members' well-being. A dyadic coping perspective rooted in family systems theory was adopted to guide the current study's research aims, which were: (1) to evaluate the unique associations between service members' emotional approach to coping and avoidance with their psychological health; and (2) to assess the impact of partners' emotion expression on

service members' psychological health. Data were collected from 82 male National Guard members and their female partners after the service members returned from deployment in 2008. Several cross-sectional findings were consistent with research hypotheses: service members' emotion expression was positively associated with their self-reported psychological health, whereas their avoidance was negatively associated. Contrary to hypotheses, partners' emotion expression was adversely related to service members' psychological health. Post-hoc analyses revealed that this negative association was most robust when partners reported high levels of emotion expression and low levels of emotion processing. Potential implications for intervention/prevention programs focused on promoting the well-being of service members during reintegration are discussed.

## INTRODUCTION

The number of service members returning from recent operations (Operation Enduring Freedom, Operation Iraqi Freedom/Operation New Dawn) has increased at a rapid rate. In 2011, 10,000 U.S. troops were removed from Afghanistan alone, and by the conclusion of summer 2012, another 33,000 were removed (Garamone, 2011). Service members returning home from combat-zone deployments may be coping with strong emotions related to stressors they experienced while deployed. One large-scale study of an Army infantry brigade ( $N = 2530$ ) found that over 80% of soldiers who deployed to Afghanistan reported receiving incoming fire from artillery, rockets, or mortars while deployed. More than half of soldiers reported being attacked or ambushed (58%) and being shot at or receiving small-arms fire (66%). Further, nearly half of soldiers knew someone seriously injured or killed (43%) and seeing ill/injured women or children they could not help (46%) (Hoge et al., 2004).

During deployment, service members are trained not to dwell on emotions surrounding such stressors in order to remain focused on their missions (Bowling & Sherman, 2008). During reintegration, service members must loosen this emotional constriction in order to reconnect with themselves and with others including their intimate partners. Coping with emotions may be particularly challenging for male service members. Traditional social constructions of masculinity coupled with military

training likely reinforce male service members' attempts to remain self-reliant and unemotional (Hoyt, 2009). Reintegration is therefore a critical, transitory time to evaluate the utility of coping strategies that enable male service members to approach their emotions surrounding stressors, such as emotion processing (e.g., understanding one's emotions) and emotion expression (e.g., communicating one's emotions), versus avoidance (e.g., denial), which was the first aim that guided the current study.

Researchers and clinicians have highlighted how deployment-induced transitions pose stressors for service members, as well as their partners (Erbes, Polusny, MacDermid, & Compton, 2008). For example, military couples are often tasked with reacquainting themselves, learning to rely on one another, and openly communicating with one another in a post-deployment environment, which likely differs from that of predeployment (Drummet, Coleman, & Cable, 2003; Erbes et al., 2008; Faber, Willerton, Clymer, MacDermid, & Weiss, 2008). Reconnecting is often challenging as both service members and their partners have likely changed during deployment in response to extended periods of stress and uncertainty (Erbes et al., 2008). Further, reestablishing intimacy may be particularly challenging for couples if veterans have mental health issues (Basham, 2008).

These types of shared stressors present the opportunity to evaluate coping as an interpersonal phenomenon and to evaluate the impact of individuals' coping strategies on their significant others' well-being (Berghuis & Stanton, 2002). Thus, the second aim that guided the current study was to evaluate the impact of partners' own coping on service members' well-being. More specifically, I evaluated whether female partners' emotion expression moderated the relationships between: (1) service members' avoidance and their psychological health; and/or (2) service members' emotion expression and their

psychological health. In doing so, I assessed whether partners' emotion expression served as a protective factor for service members' psychological well-being. Researchers have speculated that the benefit of emotional disclosure for individuals' well-being is influenced by their perception of social constraints, or attempts from others that compel them to "regulate, restrict, or modify" their feelings (Lepore & Revenson, 2007, p. 313). Partners' emotion expression may promote a social environment that is perceived by service members as receptive to emotional disclosure (Hoyt, 2009). Further, partners' emotion expression may moderate relationships between service members' own coping strategies and their well-being (Hoyt, 2009). For example, partners' high use of emotion expression may buffer the negative relationship between service members' avoidance and service members' psychological health.

In sum, two aims guided the present study: (1) to evaluate the unique associations between service members' emotion processing, expression, and avoidance with their self-reported psychological health during reintegration; and (2) to determine if partners' use of emotion expression moderated the relationships between: a) service members' use of avoidance and their psychological health; and b) service members' use of emotion expression and their psychological health. The significance of these aims is timely in light of the large number of military troops that have recently returned from combat zones (Garamone, 2011). If we can better understand how the emotional coping strategies utilized by service members and their intimate partners influence service members' psychological health during reintegration, we will be better able to provide early interventions that target the use, or misuse, of these strategies, which may in turn reduce the prevalence of mental health issues for service members and their families (Bowling &

Sherman, 2008). Further, interventions targeting this population may benefit from a family-focused design that includes partners and/or other intimate family members.

### **Theoretical Framework**

The current study was guided by a dyadic coping perspective. Dyadic coping is a term used to describe the study of coping as an interpersonal, rather than solely individual phenomenon (Hobfoll, Cameron, Chapman, & Gallagher, 1996). Researchers have used a dyadic coping framework to question whether coping strategies that are considered “adaptive” for individuals are also adaptive for their significant others and vice versa (Hobfoll et al., 1996). These types of questions require researchers to evaluate the coping strategies used by both members of an intimate relationship.

In the current study, I was interested in evaluating the relationship between partners’ emotion expression and service members’ psychological health. While current research has identified health benefits associated with communicating one’s emotions via emotion expression for men and women’s individual well-being (Berghuis & Stanton, 2002), I sought to evaluate whether female partners’ emotion expression acted as a protective factor for male service members’ well-being. Thus, I was interested in evaluating whether partners’ emotion expression was “adaptive” for service members’ self-reported psychological health.

One way of operationalizing dyadic coping is as an interaction between individual coping efforts (Bodenmann, 2005). Interactive models evaluate whether or not the coping strategies of the members of the dyad interact to predict individual adjustment (e.g., the husband’s coping strategies may buffer the detrimental effects of the wife’s maladaptive strategies on her well-being) (Berghuis & Stanton, 2002). This type of research typically

utilizes mutual influence models in which the association between one partner's coping strategies and adjustment is examined within the context of the other partner's strategies (Revenson, Abraido-Lanza, Majerovitz, & Jordan, 2005). In the current study, I defined dyadic coping as an interaction between coping strategies utilized by service members and their partners. More specifically, I evaluated interactions between: (1) service members' avoidance and their partners' emotion expression; and (2) service members' emotion expression and their partners' emotion expression. In doing so, I tested whether partners' high use of emotion expression: (1) buffered the negative association between service members' avoidance and service members' psychological health; and/or (2) strengthened the positive association between service members' emotion expression and service members' psychological health.

This conceptualization of dyadic coping is rooted in family systems theory. Although the precise definition of dyadic coping varies from study to study, Bodenmann and colleagues (2011) highlighted how dyadic coping is an *interdependent* process. Dyadic coping and family systems theory share a core assumption that individuals in close relationships have interrelated emotions, behaviors, and experiences; this phenomenon is often referred to as *interdependence*. Interdependence can loosely be defined as the notion that family members exert a mutual influence on one another (Cox & Paley, 1997).

Existing research with military couples has provided empirical support for the notion of interdependence between service members and their partners throughout the period of reintegration. For example, Renshaw and colleagues (2008) found that service members' traumatic symptoms were associated with increased spousal distress. Other



research has shown that veteran post-traumatic stress disorder (PTSD) symptoms were associated with increased marital and family adjustment problems (see Palmer, 2008 for a review).

It is important to acknowledge that the majority of this literature focuses on how service members' mental health post-deployment impacts their spouses' well-being (e.g., Renshaw et al., 2008). While these findings reinforce the theoretical assumption that the emotions and experiences of service members are related to their partners' well-being, less research has explored how partners' emotions and experiences during reintegration may impact service members' well-being (Esposito-Smythers et al., 2011). Therefore, I sought to evaluate the impact of partners' emotion expression on service members' psychological health in the current study. More specifically, I considered how the associations between service members' own coping strategies and their psychological health was impacted by the context of their intimate-partner-subsystem. In accordance with family systems theory, researchers should evaluate how individuals respond to challenges within the context of their familial subsystems (Cox & Paley, 2003). Subsystems are smaller networks of family members that are encompassed within the larger familial system. In the current study, the intimate-partner-subsystem consisted of male service members and their female partners. According to Cox and Paley, transitions will pose challenges to individuals, as well as their familial subsystems.

Although less prevalent, empirical research has indicated that service members' adjustment during reintegration is dependent upon the context of the intimate-partner-subsystem (e.g., level of support). For example, Meis and colleagues (2010) found that service members who reported experiencing severe PTSD symptoms were more likely to

seek out individual mental health treatment within the context of highly supportive, intimate relationships. In the current study, I evaluated service members' self-reported psychological health within the context of the intimate-partner-subsystem. Rather than solely examining service members' coping strategies in isolation, I also evaluated whether their partners' use of emotion expression acted as a protective factor for service members' self-reported psychological health. Partners' emotion expression may promote a social context that is perceived by service members as receptive to emotional disclosure, which may yield psychological benefits for service members (Hoyt, 2009).

In sum, I adopted a dyadic coping perspective rooted within family systems theory to evaluate whether high levels of partners' emotion expression served as a protective factor for service members' psychological health. I utilized an interactive model to test whether partners' emotion expression moderated relationships between service members' coping and service members' psychological health. Given current literature that suggests that the emotions of service members and their partners are interdependent during the period of reintegration (e.g., Esposito-Smythers et al., 2011; Renshaw et al., 2008), I evaluated the context of the intimate-partner-subsystem and expected partners' emotion expression to: (1) buffer the negative association between service members' avoidance and service members' psychological health; and (2) strengthen the positive association between service members' emotion expression and service members' psychological health. The current study adds to the existing literature regarding interdependence between service members and their partners by focusing on how service members' psychological well-being is related to the emotional coping strategies utilized by their partners. Examination of these relationships is particularly

significant in light of research that has indicated how tightly connected service members' psychological health is to the well-being of their partners during this transitional and potentially stressful time (e.g., Renshaw et al., 2008).

### **Coping with Emotions & Psychological Well-Being**

Coping has broadly been defined as a process in which individuals utilize cognitive and behavioral efforts to manage taxing demands (Lazarus & Folkman, 1984). More specifically, actively tending to and coping with emotions has been identified as a way for individuals to regulate their emotions surrounding stressors that are interpersonal and uncontrollable by nature (e.g., coping with the death of a loved one) (Austenfeld & Stanton, 2004). Empirical research has illustrated the benefit of approaching one's emotions surrounding a stressful situation for psychological well-being. For example, Baker and Berenbaum (2007) found that participants in their sample who were clear, communicative, and attentive to their emotions demonstrated higher levels of positive affect as they engaged in a task that required them to write about how they would solve a specific problem. The authors concluded that clarity and communication of emotions served as a helpful tool for participants. Others have similarly speculated that appraising one's emotions surrounding a stressor serves as a mechanism for clarifying goals and distinguishing between what one can and cannot control (e.g., Snyder et al., 1991). Researchers have further validated the benefit of managing emotions when coping with stressful experiences such as job loss (Spera, Buhrfeind, & Pennebaker, 1994) and cancer (Rosenberg et al., 2002).

In the current study, I was specifically interested in evaluating associations between male service members' psychological health and their use of coping strategies

that enabled them to approach their strong emotions after deployment (e.g., emotion processing and emotion expression) versus their use of avoidance (e.g., denial). Whereas emotion processing and emotion expression are coping strategies that facilitate individuals in understanding and communicating their emotions, respectively (Stanton et al., 2000a), avoidance involves denying, or disengaging from a stressor (Dunahoo, Hobfoll, Monnier, Hulsizer, & Johnson, 1998).

I specifically sought to evaluate the associations between male service members' strategies for coping with their emotions and their psychological health during reintegration for several reasons: (1) service members who recently returned from a combat-zone deployment are likely coping with strong emotions related to stressful experiences they endured during deployment (Hoge et al., 2004); (2) during deployment, service members are encouraged to suppress their emotions in order to remain focused on their military missions, but little is known about whether this is an adaptive coping strategy during reintegration (Bowling & Sherman, 2008); (3) male service members' attempts to remain unemotional are reinforced by both traditional social constructions of masculinity and military training (Hoyt, 2009), however tending to emotions may be an important protective factor for this population (Hassija et al., 2012); and (4) research has indicated that there is a strong association between service members' psychological well-being and that of their at-home family members during this transitional time (Renshaw et al., 2008).

Previous research with a sample of military personnel has indicated that failing to tend to emotions (e.g., via denial and disengagement) has exacerbated negative effects of work stressors (e.g., overload) on self-perceived health symptoms in military personnel

(Day & Livingstone, 2001). Research with trauma-exposed veterans found that communicating emotions was related to lower levels of depressive symptoms during reintegration (Hassija et al., 2012). Together, these findings indicate that tending to and expressing emotions may yield psychological health benefits for service members, whereas failing to do so may have negative implications for their well-being.

However, other research with military personnel (e.g., pilots) has found that service members devalue forms of coping that involve managing emotions when dealing with stressful job situations (e.g., Picano, 1990). Instead, they preferred problem-focused (action-oriented) coping strategies when faced with job-related stressors. Similarly, research has indicated that service members' use of coping strategies that tend to emotions were associated with decreased military job performance, whereas problem-focused strategies were associated with increased performance (Svensson et al., 1993). These findings indicate that coping with emotions may be negatively associated with military job performance, which may explain why emotional constriction is necessary and adaptive during deployment (Bowling & Sherman, 2008). However, emotion constriction may have detrimental effects for service members' mental health, especially during reintegration as service members are likely tasked with: (1) coping with strong emotions linked to deployment experiences; and (2) emotionally reconnecting with themselves and their intimate family members (Bowling & Sherman, 2008).

If approaching emotions surrounding stressors, rather than avoiding them, is positively associated with service members' psychological health during reintegration, it may be that service members have to undergo a significant shift away from coping strategies that were formerly adaptive during deployment (e.g., emotion suppression),

towards strategies that enable service members to come to an understanding of their emotions (e.g., emotion processing) and communicate their emotions to others (e.g., emotion expression) during reintegration. In the sections that follow, I review empirical findings pertaining to the associations between emotion processing, emotion expression, and avoidance with psychological health and outline hypotheses in accordance with this literature.

### **Emotional Approaches to Coping & Psychological Well-Being**

The Emotional Approach to Coping Scale (EAC: Stanton, Kirk, Cameron, & Danoff-Burg, 2000a) is one way in which researchers have operationalized the processes through which individuals come to understand and communicate their emotions. The EAC is an eight-item scale that recognizes the “adaptive nature of emotion and its expression” (Stanton et al., 2000a, p. 1150). Exploratory and confirmatory factor analyses revealed two distinct factors within the scale: (1) emotion processing and (2) emotion expression (Austenfeld & Stanton, 2004). Emotion processing is defined as “active attempts to acknowledge, explore meanings, and come to an understanding of one’s emotions” (e.g., “I realize that my feelings are valid”; “I take time to figure out what I’m really feeling”) whereas emotion expression involves “active verbal and/or nonverbal attempts to communicate or symbolize one’s emotional experience” (e.g., “I feel free to express my emotions”; “I let my feelings come out freely”) (p. 1342).

Since its development, researchers have used the Emotional Approach to Coping Scale (EAC: Stanton, et al., 2000a) to evaluate associations between individuals’ emotional skills/abilities and their adjustment (e.g., Smith et al., 2002). For example, Smith and colleagues found that a composite score indexing both emotion processing and

emotion expression was negatively correlated with depressive symptoms in a sample of individuals coping with myofascial pain, even after controlling for negative affect and passive coping (e.g., mental disengagement). The authors concluded that “attending to, identifying, appropriately expressing, and ultimately cognitively reconstructing negative emotional experiences” is associated with health benefits for adults coping with chronic pain (p. 327). These findings correspond with those from studies that preceded the development of the EAC Scale (Stanton, et al., 2000a), which have also illustrated the benefit of managing and expressing emotions when coping with stressful experiences (e.g., Spera et al., 1994).

It is important to note, however, that Smith and colleagues (2002) did not evaluate the unique and independent associations between emotion processing and emotion expression with depressive symptoms in their analyses because they used a composite score. They used a composite score because of the strong correlation between emotion processing and emotion expression in their sample ( $r = 0.69$ ). The unique benefit of processing one’s emotions, independent of expressing emotions, and vice versa, therefore remains largely unknown in their study. In the current study, I was specifically interested in evaluating the unique benefits of processing and expressing emotions for male service members’ psychological health, regardless of their strong correlation. Other researchers have also attempted to disentangle the unique contributions of emotion processing and emotion expression for well-being (e.g., Berghuis & Stanton, 2002). In the sections that follow, empirical findings regarding the unique associations between service members’ emotion processing, expression, and their well-being are outlined. Additionally, I have

reviewed studies of civilian couples coping with illness in light of the scarce amount of literature that has previously examined these relationships within military couples.

First, with regard to emotion processing, researchers have found that, after controlling for service members' emotion expression, their emotion processing was not significantly associated with their well-being (e.g., Hassija et al., 2012). Hassija and colleagues found that emotion processing yielded no health benefits (e.g., a reduction in depressive symptoms) for a sample of male and female, trauma-exposed veterans seeking outpatient care. Such findings corroborated those of civilian studies that also found null relationships between emotion processing and well-being after controlling for emotion expression (e.g., Manne et al., 2004). Similarly, Stanton and colleagues (2000b) found that, after controlling for emotion expression, emotion processing was positively related to an increase in distress and was not significantly related to any other health outcome (e.g., number of cancer-related medical appointments).

Taken together, these findings indicate that emotion processing may be beneficial for psychological well-being only “to the extent that processing contributes to emotional expression” (Stanton et al., 2000b, p. 880). In other words, understanding one's emotions, without communicating them, may have no health benefits for individuals. Others have even speculated that emotion processing may be associated with maladaptive rumination when emotion processing does not lend itself to emotion expression (Stanton et al., 2002). From a statistical standpoint, empirical findings have indicated that the *non-unique* relationship between emotion processing and well-being is positive (e.g., Mosher et al., 2006). Thus, the variance in emotion processing that is shared with emotion expression is positively related to well-being. However, researchers have found that, after controlling



for emotion expression, the *unique* relationship between emotion processing and well-being is either null (e.g., Hassija et al., 2012), or negative (e.g., Stanton et al., 2000b).

Therefore, in the current study I hypothesized:

*Hypothesis 1:* Absent emotion expression and avoidance as control variables, the bivariate association between service members' emotion processing and their self-reported psychological health will be significant and positive. However, after controlling for their emotion expression and avoidance, there will not be a significant unique association between service members' emotion processing and their self-reported psychological health.

In regard to emotion expression, empirical findings for the unique association between emotion expression and well-being are more consistent. Hassija and colleagues (2012) found that, even after controlling for emotion processing, emotion expression yielded positive health benefits (e.g., lower levels of PTSD symptoms and depression severity) for veterans seeking outpatient care during reintegration. Hassija and colleagues speculated that emotion expression facilitated service members' emotion regulation, disclosure to social support networks, and access to tangible support/resources.

Hassija and colleagues' (2012) findings with a military sample are similar to those of civilian studies that have detected positive health benefits of emotion expression for men and women coping with health-related stressors such as infertility (e.g., Berghuis & Stanton, 2002) and women coping with breast cancer (e.g., Manne et al., 2004; Stanton et al., 2000b). For example, Manne and colleagues found that breast cancer patients who had above average levels of emotion expression over a nine month period maintained higher levels of post-traumatic growth. The authors speculated that expression of negative emotions provided patients with the opportunity to: desensitize themselves to negative feelings; reduce negative feelings in order to focus on more positive ones;

and/or to enhance close relationships through self-disclosure. Therefore, in the current study I hypothesized:

*Hypothesis 2:* After controlling for emotion processing and avoidance, the unique association between service members' emotion expression and their self-reported psychological health will be positive.

### **Avoidance & Psychological Well-Being**

Contrary to emotional approaches to coping, avoidance includes denying or disengaging from a stressor (Dunahoo et al., 1998). Some have conceptualized avoidance as an opposite coping strategy of emotion processing and emotion expression (Marques et al., 2009). Researchers have found that avoidant coping (e.g., wishing the situation would go away) was positively associated with PTSD symptom severity in a sample of service members with low and moderate levels of combat exposure (Rodrigues & Renshaw, 2010). Hassija and colleagues (2012) similarly found that service members' avoidant coping was positively related to PTSD symptoms and depressive symptom severity. Similarly, not attending to emotions (e.g., via denial, disengagement) has been found to exacerbate the detrimental effects of work stressors (e.g., overload) on self-perceived health symptoms in a sample of military personnel (Day & Livingstone, 2001). Within the civilian literature, researchers have also detected unfavorable psychological consequences of avoidant coping for individuals coping with traumatic experiences (e.g., intimate partner violence) (Krause, Kaltman, Goodman, & Dutton, 2008). In the current study I hypothesized:

*Hypothesis 3:* After controlling for emotion processing and expression, the unique association between service members' avoidance and their self-reported psychological health will be negative.

## **Evaluating Interactions with Partners**

In accordance with the second aim of the current study, I adopted a dyadic coping perspective to assess the impact of partners' emotion expression on service members' self-reported psychological health during reintegration. I sought to determine if partners' emotion expression acted as a protective factor. In light of research that has established how service members' well-being during reintegration is dependent upon the context of their intimate relationships (Meis et al., 2010), I speculated that, when partners engaged in high levels of emotion expression, a social environment would be created that was perceived by service members as receptive to emotional disclosure, which would strengthen the efficacy of service members' own emotional coping strategies (Hoyt, 2009). I therefore tested two interactions in the current study, one between service members' avoidance and partners' emotion expression, and another between service members' emotion expression and partners' emotion expression.

To my knowledge, interactions between coping strategies utilized by service members and their partners during reintegration have yet to be studied. However, many researchers have examined the impact of partners' coping on patients' well-being with samples of civilian couples coping with illness (e.g., Badr & Carmack Taylor, 2006). Such studies suggest that partners' coping strategies are significantly related to the well-being of their patients.

Much of the research that has operationalized dyadic coping as an interaction between individuals' coping strategies (Bodenmann, 2005) has focused on interactions between the same strategies across partners (e.g., Badr, 2004). For example, Badr evaluated the interaction between partners' individual use of avoidance (e.g., "I've been

doing something to think about it less”) when predicting adjustment in a sample of healthy couples ( $N = 90$ ) and couples coping with illness ( $N = 92$ ) (p. 203). Badr found that couples reported greater overall dyadic adjustment when one partner reported high (above average) and the other reported low (below average) use of avoidant coping. These results supported Badr’s hypothesis that complementarity in coping styles would buffer the detrimental effects of one spouse’s use of avoidance because partners took “turns disclosing and hiding concerns” (p. 208).

However, Peterson and colleagues (2006) found that complementarity in coping was not adaptive for couples ( $N = 420$ ) coping with infertility. More specifically, the authors examined men and women’s individual use of distancing (e.g., “went on as if nothing happened”) as a coping strategy. The authors found that, upon comparing mean levels of infertility stress and marital adjustment for couples in which males and females reported high use of distancing, versus couples in which males reported high and females reported low use of distancing, there were no statistically significant differences. Low female use of distancing, in the presence of high male use of distancing, did not add any protective value for couples. In light of these results, I evaluated the significance of the interaction between male service members’ use of avoidance and their female partners’ use of emotion expression in the current study. Although partners’ use of avoidance may not serve as a protective factor, partners’ use of emotion expression may serve as a protective factor and moderate the relationship between service members’ use of avoidance and their psychological health. In line with Badr’s (2004) complementarity hypothesis, female partners’ emotion expression may be a protective factor for male service members who reported high levels of avoidance. Therefore, I hypothesized that

partners' use of emotion expression would moderate the relationship between service members' avoidance and their self-reported psychological health. More specifically, partners' high use of emotion expression would buffer the negative relationship between service members' avoidance and service members' psychological health. I expected this buffering effect to be strongest for those service members who reported high levels of avoidance:

*Hypothesis 4a:* Male service members who report higher use of avoidance will report higher levels of psychological health when their female partners report higher use of emotion expression.

The evaluation of the interaction between service members' avoidance and their partners' emotion expression is extremely exploratory given how current research has primarily focused on interactions between partners' use of the same coping strategy.

Other researchers have investigated whether there are significant interactions between husbands' and wives' use of emotion expression when predicting individual depressive symptoms in response to infertility (Berghuis & Stanton, 2002). Berghuis and Stanton detected a significant interaction between partners' use of emotion expression when predicting wives', but not husbands', well-being. Women who reported low use of emotion expression reported lower levels of depressive symptoms if their male partners reported high use of emotion expression. Men's emotion expression served as a protective factor for their female partners. These findings lend partial empirical support to the complementarity hypothesis put forth by Badr (2004).

The lack of statistically significant results when predicting men's depressive symptoms from their wives' coping strategies in Berghuis and Stanton's (2002) study conflicts with the social support literature that suggests that men benefit from the social-

coping resources of their partners (Shumaker & Hill, 1991). Further, others have hypothesized that partners' emotion expression would "set the stage for open communication," which would provide comfort to individuals coping with illness, and consequently promote patients' well-being (Manne et al., 2004, p. 452). Within the context of the current study, partners' emotion expression may cultivate an environment that is receptive to emotional disclosure, which may serve as a protective factor for service members' psychological health (Hoyt, 2009, p. 983). According to Hoyt, receptiveness to the use of emotional approach coping from one's social environment has the potential to impact its effectiveness.

Berghuis and Stanton (2002) recognized that lack of statistical significance in their study may have been due to their relatively small sample ( $N = 43$  couples) and encouraged future researchers to re-examine this interaction. The interaction between male service members' and their female partners' use of emotion expression was tested in the current study with a sample size ( $N = 82$  couples) nearly twice as large as Berghuis and Stanton's. In the current study, I hypothesized that female partners' use of emotion expression would moderate the relationship between service members' use of emotion expression and service members' psychological health. More specifically, partners' high use of emotion expression would strengthen the positive relationship between service members' emotion expression and their self-reported psychological health. I expected this effect to be strongest for those service members who reported low levels of emotion expression:

*Hypothesis 4b:* Male service members who report low use of emotion expression will report higher levels of psychological health when their female partners report high use of emotion expression.

## CURRENT STUDY

Two research questions guided the current study: (1) what are the unique associations between male service members' emotion processing, emotion expression, and avoidance with their self-reported psychological health during reintegration; and (2) does partners' use of emotion expression moderate the relationships between: a) service members' use of avoidance and their psychological health; and/or b) service members' use of emotion expression and their psychological health?

In light of the first research question, I examined the unique associations between service members' emotion processing, emotion expression, and avoidance with their self-reported psychological health during reintegration. In accordance with previous research, I first hypothesized that, after controlling for their emotion expression and avoidance, the unique association between service members' emotion processing and their self-reported psychological health would be non-significant (e.g., Hassija et al., 2012), although the bivariate relationship would be significant and positive (e.g., Mosher et al., 2006). Second, I hypothesized that, after controlling for their emotion processing and avoidance, the unique association between service members' emotion expression and their self-reported psychological health would be significant and positive (e.g., Hassija et al., 2012). Lastly, I hypothesized that, after controlling for their emotion processing and emotion

expression, the unique relationship between service members' avoidance and their psychological health would be significant and negative (e.g., Hassija et al., 2012; Rodrigues & Renshaw, 2010).

In light of the second research question, I evaluated whether partners' emotion expression moderated relationships between service members' coping and service members' psychological health. First, I evaluated an interaction between service members' avoidance and their partners' emotion expression. In light of Badr's (2004) complementarity hypothesis, I hypothesized that high use of emotion expression by female partners would buffer the negative relationship between male service members' use of avoidance and their psychological health. More specifically, service members who reported high use of avoidance would report higher levels of psychological health if their female partners reported high use of emotion expression (hypothesis 4a).

Second, I evaluated an interaction between service members' emotion expression and their partners' emotion expression. I hypothesized that high use of emotion expression by female partners would strengthen the positive relationship between service members' use of emotion expression and their self-reported psychological health during reintegration. More specifically, male service members who reported low use of emotion expression would report higher levels of psychological health if their female partners reported high use of emotion expression (hypothesis 4b). Despite the lack of statistically significant results for this interaction when predicting men's depressive symptoms from their wives' coping strategies in Berghuis and Stanton's (2002) study, I hypothesized that the interaction between male service members' and their female partners' emotion expression would be statistically significant. The lack of statistically significant results in



Berghuis and Stanton's study may have been due to a relatively small sample size and thus a lack of statistical power. I expected to detect statistically significant moderation in the current study because the sample size was nearly double that of Berghuis and Stanton's. Further, male service members might especially benefit from their female partners' usage of emotion expression during reintegration as they abandon emotional constriction and attempt to emotionally reconnect with themselves and with others (Bowling & Sherman, 2008). Figure 1 serves as an illustration of the conceptual model that was tested in the current study.

## METHODS

### Participants

Participants were recruited from a National Guard Brigade Combat Team with the permission of National Guard authorities. The study targeted 3,400 National Guard members who returned from a deployment in the Middle East in 2008 and aimed to explore how families adjusted to transitions post-deployment. Only service members who were married or living with a significant other were eligible for the study (approximately half of the service members). A total of 312 couples (service members *and* their partners) participated in the study for at least one of three waves of data collection post-deployment (85 at Wave 1, 99 at Wave 2, and 128 at Wave 3). There were substantially more individual service members *or* partners (not from the same couple) who participated, yielding a total of 984 completed surveys by the study's conclusion.

Few couples ( $N = 37$ ) participated in all three waves of data collection. In an effort to maximize the sample size and increase power, the current study utilized data from two time points per couple (wave 1 *or* wave 2 *and* wave 3). Data from wave 1 or wave 2 (depending on availability) served as Time 1 and data from wave 3 served as Time 2. In the cases where couples ( $N = 37$ ) participated in all three waves of data collection, data from wave 1 *or* wave 2 were omitted at random so that there were only two time points per couple ( $N = 82$ ). On average, the Time 1 data point indexed 7.78

months (range = 2-12 months) since service members' return from deployment, and the Time 2 data point indexed 16.03 months (range = 14-26 months) since service members' return from deployment.

Analyses for the current study included 82 male National Guard members ( $M$  age = 34.65,  $SD$  = 8.72) and their female spouses or cohabiting intimate partners ( $M$  age = 33.50,  $SD$  = 8.27). As indicated in Table 1, the majority of couples in the current study identified themselves as married at Time 1 ( $N$  = 74). Based on partner-reported data, one of the eight cohabiting (non-married) couples at Time 1 later identified themselves as married at Time 2. Time 1 descriptive statistics revealed that the majority of service members in the sample were White (92.5%). Nearly all (98.8%) had obtained a high-school diploma or the equivalent, but most (72%) had not received a bachelor's degree. Similarly, most partners identified themselves as White (93.5%) and had obtained a high-school diploma or the equivalent (98.8%). In addition, nearly half (39.0%) of partners in the sample reported that they had obtained some college credit but not a degree.

At Time 1, service members had spent an average of 12.09 ( $SD$  = 7.31) years in military service, during which they had been on an average of 1.84 ( $SD$  = 0.99) combat deployments. Most identified themselves as enlisted ( $N$  = 66; 80%). Half (51.4%) of service members reported a household annual gross income of \$50,000-59,000 or less. On average, service members reported being in a relationship with their significant other for 10.10 years ( $SD$  = 7.22) and had 1.67 ( $SD$  = 1.29) dependent children living in their home on a regular basis.

## **Procedures**

Participants were recruited for the study primarily through mailings (one to inform participants about the study and one to distribute information packets with instructions for downloading, accessing, and completing the online survey). Mailings were directly addressed to each service member in the Midwestern Brigade Combat Team. National Guard headquarters staff provided assistance to preserve complete confidentiality of prospective participants. Additional recruitment efforts included disseminating information about the study to Indiana Family Readiness Group (FRG) leaders, in the hope that they would share this information with their members. Staff also visited FRG meetings when possible.

National Guard members and their partners completed similar online surveys (30-40 minutes) at each wave of data collection. The survey included items related to the following topics: personal background and military experience, resilience, social support, personal well-being, intimate relationships, and family environment/stress/cohesion. Participants were compensated with a check of \$20 for each survey they completed. A small token of appreciation (e.g., a magnet) was also mailed to participants between data collections for recruitment and retention purposes.

## **Measures**

**Emotion processing.** Service members' emotion processing at Time 1 served as a primary independent variable of interest in the current study, which was operationally defined using the EAC Scale (Stanton et al., 2000a). Emotion processing was defined as "active attempts to acknowledge, explore meanings, and come to an understanding of one's emotions," and its subscale consisted of the following four items: (1) "I take time to

figure out what I'm really feeling;" (2) "I delve into my feelings to get a thorough understanding of them;" (3) "I realize that my feelings are valid and important;" and (4) "I acknowledge my emotions" (Austenfeld & Stanton, 2004, p. 1342). Data were collected regarding service members' own ratings of how much they generally utilized each of these four strategies when confronted with stressful experiences. Items were measured on a Likert scale ranging from 1 (*I don't do this at all*) to 4 (*I do this a lot*).

A mean score was created to indicate service members' emotion processing at Time 1 when service members responded to at least three of the four items. Higher scores were indicative of more self-reported use of emotion processing as a coping strategy. The mean for service members' emotion processing at Time 1 was 2.29 ( $SD = .80$ ) (see Table 3). Stanton and colleagues (2000a) reported a similar, yet higher, mean of emotion processing for civilian men ( $M = 2.61$ ,  $SD = .62$ ). The means appeared to be normally distributed in the current sample. Neither the degree of skewness (.32) nor kurtosis (-.51) was problematic because the ratio of skewness to its standard error (SE) and kurtosis to its SE were each less than 2.5 (Anthony, 2011) (see Table 2). The reliability of this scale was high (Cronbach's  $\alpha = .91$ ). Stanton and colleagues (2000a) reported a Cronbach's  $\alpha$  of .72 for the same set of items in their scale construction and validation studies.

In order to isolate potential moderating effects of partners' emotion expression, partners' emotion processing at Time 1 served as a control variable in the current study. Data were collected regarding partners' own ratings of how much they generally utilized each of the same four strategies asked of service members when confronted with stressful experiences. A mean score was created to indicate partners' emotion processing at Time 1 when partners responded to at least three of the four items. Higher scores were

indicative of more self-reported use of emotion processing as a coping strategy. The mean for partners' emotion processing at Time 1 was 2.78 ( $SD = .84$ ) (see Table 3). Stanton and colleagues (2000a) reported a similar mean of emotion processing for civilian women ( $M = 2.85$ ,  $SD = .63$ ). The mean scores for partners' emotion processing at Time 1 appeared to be normally distributed in the current sample. Neither the degree of skewness (-.15) nor kurtosis (-.77) were problematic because the ratio of skewness to its SE and kurtosis to its SE were each less than 2.5 (Anthony, 2011) (see Table 2). The reliability of this scale was also relatively high (Cronbach's  $\alpha = .87$ ).

**Emotion expression.** Service members' emotion expression at Time 1 also served as a primary independent variable of interest in the current study, and was operationally defined using the second subscale of the EAC scale (Stanton et al., 2000a). Austenfeld and Stanton (2004) defined emotion expression as: "active verbal and/or nonverbal attempts to communicate or symbolize one's emotional experience" and its subscale consisted of the following four items: (1) "I feel free to express my emotions;" (2) "I allow myself to express my emotions;" (3) "I take time to express my emotions;" and (4) "I let my feelings come out freely" (p. 1342). Data were collected regarding service members' own ratings of how much they generally utilized each of these four strategies when confronted with stressful experiences. Items were measured on a Likert scale ranging from 1 (*I don't do this at all*) to 4 (*I do this a lot*).

A mean score was created to indicate service members' emotion expression when service members responded to at least three of the four items. Higher scores indicated more self-reported use of emotion expression as a coping strategy. The mean for service members' emotion expression at Time 1 was 2.24 ( $SD = .83$ ) (see Table 3). Stanton and

colleagues (2000a) reported a similar mean for emotion expression for civilian men ( $M = 2.45$ ,  $SD = .71$ ). The means appeared to be normally distributed. Neither the degree of skewness (.07) nor kurtosis (-.87) were problematic because the ratio of skewness to its SE and kurtosis to its SE were each less than 2.5 (Anthony, 2011) (see Table 2). The reliability of this scale was also relatively high (Cronbach's  $\alpha = .90$ ). Stanton and colleagues (2000a) reported a Cronbach's  $\alpha$  of .82 for the same set of items.

Partners' emotion expression at Time 1 also served as a primary independent variable of interest in the current study. Data were collected regarding partners' own ratings of how much they generally utilized each of the same four strategies asked of service members when confronted with stressful experiences. A mean score was created to indicate partners' emotion expression at Time 1 when partners responded to at least three of the four items. Higher scores were indicative of more self-reported use of emotion expression as a coping strategy. The mean for partners' emotion expression at Time 1 was 2.88 ( $SD = .94$ ) (see Table 3). Stanton and colleagues (2000a) reported a similar mean of emotion expression for civilian women ( $M = 2.79$ ,  $SD = .73$ ). The mean scores appeared to be normally distributed in the current sample. Neither the degree of skewness (-.36) nor kurtosis (-1.03) were problematic because the ratio of skewness to its SE and kurtosis to its SE were each less than 2.5 (Anthony, 2011) (see Table 2). The scale's reliability was also relatively high (Cronbach's  $\alpha = .93$ ).

**Avoidance.** Service members' avoidance at Time 1 also served as a primary independent variable of interest in the current study. Avoidance was operationally defined using the Strategic Approach to Coping Scale (SACS; Monnier et al., 1998). The SACS measures a variety of communal (e.g., social joining) and individualistic coping

strategies (e.g., assertive action). In the current study, the complete six-item avoidance subscale was utilized. Service members were asked to think of particular, salient, stressful events that happened to them in the previous four months and indicate how much they relied on the following coping strategies: (1) “Avoid dealing with the problem, things like this often go away on their own;” (2) “Do something to help you avoid thinking about the problem;” (3) “Back off and just let the smoke clear;” (4) “Hold back, as it is better to wait until the smoke clears before any action is taken;” (5) “If it doesn’t get worse, just avoid the whole thing;” and (6) “Focus on something else and let the situation resolve itself” (p 271). All items were measured on a Likert scale that ranged from 1 (*Not at all what I would do*) to 5 (*Very much what I would do*).

A mean score was created to indicate service members’ avoidance when service members responded to at least three of the six items. Although I required valid data for 75% of items in order for a mean to be calculated for individuals’ emotion processing and emotion expression, I only required valid data for 50% of items for the avoidance mean scale in light of several factors. First, the items in this scale were strongly correlated with one another and the subscale is well established in the current literature. Second, there were missing data among these items. If I had required valid data for at least 75% of items ( $N = 5$ ) in order to calculate a mean, I would have reduced my analytical sample size by six dyads. I therefore decided to include data from service members in analyses if they had valid data for at least three of the six avoidance items. Higher scores were indicative of more self-reported use of avoidance as a coping strategy. The mean for service members’ avoidance at Time 1 was 3.00 ( $SD = .89$ ) (see Table 3). The mean scores appeared to be normally distributed. Neither the degree of skewness (-.08) nor



kurtosis (-.55) were problematic because the ratio of skewness to its SE and kurtosis to its SE were each less than 2.5 (Anthony, 2011) (see Table 2). The scale's reliability was also relatively high (Cronbach's  $\alpha = .81$ ). Dunahoo and colleagues (1998) reported a Cronbach's  $\alpha$  of .72 for the same set of items.

In order to isolate potential moderating effects of their emotion expression for service members' psychological health, partners' avoidance at Time 1 served as a control variable in the current study. Data were collected regarding partners' own ratings of how much they relied on each of the same six strategies asked of service members when confronted with stressful events that happened to them in the previous four months. A mean score was created to measure partners' avoidance at Time 1 when partners responded to at least three of the six items. Higher scores were indicative of more self-reported use of avoidance as a coping strategy. The mean for partners' avoidance at Time 1 was 2.86 ( $SD = .91$ ) (see Table 3). The mean scores appeared to be normally distributed; neither the degree of skewness (-.36) nor kurtosis (-1.03) were problematic (Anthony, 2011) (see Table 2). The reliability of this scale was relatively high (Cronbach's  $\alpha = .81$ ).

**Self-reported psychological health.** Service member self-reported psychological health at Time 2 served as the dependent variable of interest in the current study, which was operationally defined using service members' responses to the single item: "Rate your psychological health (e.g., feeling happy, satisfied, interested in life)" (Willerton, MacDermid, Nishikawa, & Stander, under review). Answer choices ranged from 1 (*very poor*) to 5 (*very good*). The mean level of psychological health for service members in the current sample was 3.86 ( $SD = 1.02$ ) (see Table 3).

Variants of this single-item, self-rated health measure have been used as global health indicators among sociologists since the 1950s (Suchman, Phillips, & Streib, 1958). Further, a single-item measure of general health has been used with a military sample in the Post-Deployment Health Reassessment (PDHRA) (Department of Defense, 2008). Self-rated health measures, unlike physician ratings, are not objective. Instead, they represent one's subjective appraisal of one's health status. However, single-item, self-reported, health measures have been associated with mortality in previous research, even after controlling for other specific health indicators with a variety of populations (Idler & Behyamini, 1997). Further, this association was not due to confounding psychosocial resources, such as social support (Mackenbach, Simon, Looman, & Joung, 2002). Mackenbach and colleagues therefore concluded that self-reported health is a comprehensive measure of health that reflects aspects of health that are not confounded with other indicators.

Similarly, others have evaluated the predictive validity of perceived global health measures (e.g., Miilunpalo et al., 1997). Miilunpalo and colleagues found that perceived global health was significantly associated with the number of annual outpatient visits a year later in both elderly and middle-aged populations. The authors further found perceived health to be relatively stable over time. Approximately 60% of their respondents rated their self-perceived health at the same level for initial and follow up questionnaires one year later. This single-item variable appeared to be normally distributed in the current sample. Two ratios were calculated: (1) the degree of skewness (-.54) to its SE and (2) the degree of kurtosis (-.47) to its SE. As shown in Table 2, both

ratios were less than 2.5, therefore indicating that neither skewness nor kurtosis were problematic (Anthony, 2011).

**Demographic controls.** In accordance with Shadish and colleagues' (2001) guidelines, the following demographic variables measured at Time 1 also served as control variables because they were significantly correlated with either the independent or dependent variables of interest: (1) service member pay grade (as a proxy for income, service member education, and years in service); (2) service member age; and (3) the number of children living in the service member's home (see Table 3 for correlations). I also controlled for the number of months ( $M = 7.78$ ,  $SD = 2.31$ ) that elapsed between service members' return from deployment and Time 1 due to variation in timing of data collection.

## DATA ANALYSIS

In addition to measuring descriptive statistics and correlations among all study variables, three regression analyses were conducted to test the research hypotheses. First, hypotheses one through three pertained to the unique associations between service members' emotion processing (hypothesis 1), emotion expression (hypothesis 2), and avoidance (hypothesis 3) and their self-reported psychological health during reintegration, while controlling for service members' pay grade, service members' age, the number of children living in service members' homes, and the number of months that elapsed between service members' return from deployment and Time 1 data collection. Therefore, I conducted a two-block hierarchical multiple regression in which service members' psychological health at Time 2 was first regressed onto their psychological health at Time 1 and the demographic variables previously mentioned (block 1). In block 2, I entered service members' emotion expression, emotion processing, and avoidance at Time 1. In accordance with Aiken and West's (1991) guidelines, all coping strategies were mean-centered. I evaluated the significance of the  $F$  statistic for the change in  $R^2$  from block 1 to block 2 to determine if, after accounting for control variables, service members' coping strategies at Time 1 explained a statistically significant ( $\alpha = .05$ ) amount of variance in service members' psychological health at Time 2 (Aiken & West, 1991).

I first evaluated the *non-unique* relationship between service members' emotion processing and their self-reported psychological health by evaluating the bivariate correlation ( $r$ ) between service members' emotion processing at Time 1 and their psychological health at Time 2. In accordance with hypothesis 1, I expected this  $r$  to be significant and positive. Next, I evaluated the unique relationships between service members' emotion processing, emotion expression, and avoidance with their self-reported psychological health by evaluating the individual standardized regression weights ( $\beta$ ) for each respective coping strategy at Time 1 as predictors of their psychological health at Time 2. In accordance with hypothesis 1, I expected the  $\beta$  for service members' emotion processing to be non-significant. Thus, whereas I expected the *non-unique* relationship between service members' emotion processing and psychological health to be significant and positive, I expected the *unique* relationship to be non-significant. In accordance with hypothesis 2, I expected the  $\beta$  for service members' emotion expression to be significant and positive. Lastly, in accordance with hypothesis 3, I expected the  $\beta$  for service members' avoidance to be significant and negative.

The remaining hypotheses (4a and 4b) pertained to partners' use of emotion expression at Time 1 as a moderator of the relationships between service members' coping and service members' psychological health at Time 2. The second and third regression analyses I conducted were in accordance with these hypotheses. First, I hypothesized that higher levels of partners' use of emotion expression at Time 1 would buffer the negative relationship between service members' use of avoidance at Time 1 and service members' psychological health at Time 2 (hypothesis 4a). To empirically test this hypothesis, I followed generally established procedures (Aiken & West, 1991) and

conducted a three-block hierarchical multiple regression. In the first block, service members' psychological health at Time 2 was regressed onto control variables only (including their psychological health at Time 1). In the second block, I entered service members' emotion processing, emotion expression, and avoidance at Time 1, as well as their partners' emotion processing, emotion expression, and avoidance at Time 1. In the third block, I entered the interaction between service members' avoidance and their partners' emotion expression. In accordance with Aiken and West's (1991) guidelines, the interaction term was created by multiplying the appropriate centered predictors. I evaluated the statistical significance ( $\alpha = .05$ ) of the  $\beta$  for the interaction term to determine if partners' high use of emotion expression at Time 1 buffered the negative relationship between service members' avoidance at Time 1 and service members' psychological health at Time 2. More specifically, hypothesis 4a predicted that male service members who reported high use of avoidance at Time 1 will report higher levels of psychological health at Time 2 if their female partners reported high use of emotion expression at Time 1.

Second, I hypothesized that higher levels of partners' use of emotion expression at Time 1 would strengthen the positive relationship between service members' use of emotion expression at Time 1 and service members' psychological health at Time 2 (hypothesis 4b). To empirically test this hypothesis, I followed generally established procedures (Aiken & West, 1991) and conducted a three-block hierarchical multiple regression. In the first block, service members' psychological health at Time 2 was regressed onto service members' psychological health at Time 1 and control variables only. In the second block, I entered service members' emotion processing, emotion

expression, and avoidance at Time 1, as well as their partners' emotion processing, emotion expression, and avoidance at Time 1. Lastly, in the third block, I entered the interaction between service members' emotion expression and their partners' emotion expression. In accordance with Aiken and West's (1991) guidelines, the interaction term was created by multiplying the appropriate centered predictors. I evaluated the statistical significance ( $\alpha = .05$ ) of the  $\beta$  for the interaction term to determine if partners' high use of emotion expression at Time 1 strengthened the positive relationship between service members' emotion expression at Time 1 and service members' psychological health at Time 2. More specifically, hypothesis 4b predicted that male service members who reported low use of emotion expression at Time 1 will report higher levels of psychological health at Time 2 if their female partners reported high use of emotion expression at Time 1.

## RESULTS

### Descriptive Statistics

As shown in Table 3, there were statistically significant correlations among some study variables. First, service members' self-reported psychological health at Time 1 and Time 2 were positively correlated ( $r = .42, p < .01$ ). In terms of demographic variables, service members' age at Time 1 was positively correlated with both their own avoidance ( $r = .33, p < .01$ ) and their partners' avoidance ( $r = .25, p < .05$ ) at Time 1. The number of children reported living in service members' homes at Time 1 was negatively correlated with their own emotion processing at Time 1 ( $r = -.37, p < .01$ ), and their psychological health at Time 2 ( $r = -.27, p < .05$ ). Service members' pay grade and emotion processing were positively correlated ( $r = .23, p < .05$ ) at Time 1. Lastly, service members' self-reported psychological health at Time 1 and their partners' self-reported psychological health at Time 1 were positively correlated ( $r = .34, p < .01$ ). In light of such statistically significant correlations, these variables were included as control variables in the regression analyses (Shadish, Cook, & Campbell, 2001). Number of months that elapsed between service members' return from deployment and the first data collection ( $M = 7.79, SD = 2.31$ ) was not significantly correlated with any study variables, indicating that variability in timing of data collection was not a likely confound in the current study; however, it was included in primary study analyses as a control variable.



As a preliminary step to addressing the first research aim of the current study (to evaluate the unique associations between service members' coping strategies and psychological health during reintegration), I first evaluated bivariate relationships between service members' coping strategies at Time 1 and their self-reported psychological health. Their emotion processing was positively correlated with both their Time 1 ( $r = .25, p < .05$ ) and Time 2 ( $r = .41, p < .01$ ) psychological health. The significant bivariate correlation between service members' emotion processing at Time 1 and psychological health at Time 2 provided empirical support for the first part of hypothesis 1: absent emotion expression and avoidance as control variables, the bivariate association between emotion processing and psychological health was significant and positive. Similarly, service members' emotion expression was positively correlated with their Time 1 ( $r = .35, p < .01$ ) and Time 2 ( $r = .32, p < .01$ ) psychological health, whereas their avoidance was negatively correlated with their psychological health, both at Time 1 ( $r = -.41, p < .01$ ) and Time 2 ( $r = -.26, p < .05$ ). Lastly, results indicated that service members' avoidance was negatively correlated with both their emotion processing ( $r = -.30, p < .05$ ) and expression ( $r = -.32, p < .05$ ). These negative relationships were expected, as others have speculated that avoidance is negatively associated with emotion processing and expression (Marques et al., 2009). As in previous research (e.g., Stanton et al., 2000a) emotion processing and expression were positively correlated ( $r = .58, p < .01$ ).

As a preliminary step toward meeting the second research aim of the current study (to evaluate the impact of partners' own coping on their service members' self-reported psychological health), I also evaluated bivariate relationships between partners' Time 1

coping strategies and service members' self-reported psychological health. The only statistically significant association was between partners' avoidance at Time 1 and service members' psychological health at Time 1 ( $r = -.36, p < .01$ ). Upon inspection of bivariate correlations, partners' emotion processing and emotion expression were not significantly associated with service members' self-reported psychological health, as measured at Time 1 or Time 2 (see Table 3). Although partners' emotion expression was not significantly correlated with service members' psychological health at Time 2, it was still possible that partners' emotion expression moderated the relationship between: (1) service members' avoidance at Time 1 and their psychological health at Time 2 (hypothesis 4a); and/or (2) service members' emotion expression at Time 1 and their psychological health at Time 2 (hypothesis 4b).

### **Regression Analyses Hypotheses 1 through 3**

In order to test hypotheses one through three, I conducted a 2-block hierarchical multiple regression. Service members' psychological health at Time 2 (dependent variable) was first regressed onto their psychological health at Time 1, their partners' psychological health at Time 1, and demographic control variables (e.g., pay grade) (see Model 1, Table 4). In block 2, I entered service members' emotion expression, emotion processing, and avoidance at Time 1 (see Model 2, Table 4). Results indicated that the control variables entered in block 1 accounted for a statistically significant amount of variance in service members' psychological health at Time 2 ( $R^2 = .29, p < .05$ ). The relationship between service members' psychological health at Time 1 and Time 2 was particularly strong ( $\beta = .50, p < .01$ ).

The change in  $R^2$  from Model 1 to Model 2 (see Table 4) was nonsignificant ( $\Delta R^2 = .04, p = .85$ ), indicating that, together, service members' coping strategies did not account for additional unique variance. As predicted in hypothesis 1, there was *not* a statistically significant, unique association between service members' emotion processing at Time 1 and their psychological health at Time 2 ( $\beta = .20, p = .30$ ). Results from this regression analysis did not lend empirical support to hypotheses 2 or 3. After controlling for their psychological health at Time 1, neither service members' emotion expression at Time 1 ( $\beta = .04, p = .84$ ), nor their avoidance at Time 1 ( $\beta = -.05, p = .78$ ) was uniquely associated with their psychological health at Time 2 (see Table 4).

Lastly, in light of the strong, positive, correlation between service members' emotion processing and emotion expression at Time 1 ( $r = .58, p < .01$ ), I evaluated tolerance statistics to ensure that the degree of multicollinearity among all of the predictors in the final model (see Table 4) was not problematic—if so, the estimated coefficients may have been unstable and their standard errors inflated (UCLA: Statistical Consulting Group, 2007). Tolerance statistics for service members' Time 1 emotion processing (.47), emotion expression (.43), and avoidance (.62) exceeded the .10 cutoff suggested by the UCLA Statistical Consulting Group (2007), indicating that there was a sufficient amount of unique variance in each predictor not accounted for by others in the model. Further, the variance inflation factors (VIF) for service members' emotion processing (2.14), emotion expression (2.31), and avoidance (1.61) at Time 1 were each well under 10. According to the UCLA Statistical Consulting Group, a VIF value greater than 10 may indicate that the level of redundancy among predictors is problematic and warrants further investigation. Therefore, despite the strong correlation between service

members' emotion processing and emotion expression ( $r = .58, p < .01$ ), multicollinearity was not an issue in the current regression analysis.

### **Regression Analyses Hypotheses 4a & 4b**

In order to test hypothesis 4a, I conducted a 3-block hierarchical multiple regression. In the first block, service members' psychological health at Time 2 was regressed onto control variables and service members' psychological health at Time 1 (see Model 1, Table 5). In the second block, I entered service members' emotion processing, emotion expression, and avoidance at Time 1, as well as their partners' emotion processing, emotion expression, and avoidance at Time 1 (see Model 2, Table 5). In the third block, I entered the interaction between service members' avoidance and their partners' emotion expression (see Model 3, Table 5). Results indicated that the interaction between service members' avoidance and their partners' emotion expression was not statistically significant ( $\beta = -.13, p = .43$ ). According to this analysis, partners' emotion expression at Time 1 did not moderate the relationship between service members' avoidance at Time 1 and service members' psychological health at Time 2; thus, hypothesis 4a was not empirically supported.

In order to test hypothesis 4b, I conducted another 3-block hierarchical multiple regression. In the first block, service members' psychological health at Time 2 was regressed onto control variables and service members' psychological health at Time 1 (see Model 1, Table 6). In the second block, I entered service members' emotion processing, emotion expression, and avoidance at Time 1, as well as their partners' emotion processing, emotion expression, and avoidance at Time 1 (see Model 2, Table 6). In the third block, I entered the interaction between service members' emotion expression

and their partners' emotion expression (see Model 3, Table 6). Results indicated that the interaction between service members' emotion expression and their partners' emotion expression was not statistically significant ( $\beta = .14, p = .41$ ). According to this analysis, partners' emotion expression at Time 1 did not moderate the relationship between service members' emotion expression at Time 1 and service members' psychological health at Time 2, thus failing to support hypothesis 4b.

Lastly, I checked tolerance and VIF statistics to ensure that there was enough variance in partners' coping strategies that was not redundant with their service members' coping strategies. Partners' emotion expression, emotion processing, and avoidance at Time 1 yielded tolerance statistics greater than .10 (.41, .38, and .54, respectively) and VIFs less than 10 (2.45, 2.65, and 1.84, respectively). These results indicated that multicollinearity was not a concern (UCLA: Statistical Consulting Group, 2007).

### **Exploratory Regression Analyses**

After controlling for service members' Time 1 self-reported psychological health, few other predictors were statistically significant in the current analyses. In light of the strong correlation between service members' self-reported psychological health at Time 1 and Time 2 ( $r = .42, p < .01$ ), I ran a paired samples t-test to determine if, on average, the change in service members' psychological health from Time 1 to Time 2 was statistically significant. Results indicated that, on average, service members' self-reported psychological health increased by .19 from Time 1 to Time 2, but this was not a statistically significant pattern [ $t(78) = 1.50, p = .14$ ]. In light of the fact that there was very little change variance to predict within the current sample, I decided to test the same hypotheses (1, 2, 3, 4a, and 4b) with cross-sectional data (Time 1 only). I followed the

same data analysis plan outlined in the methods section, but with service members' psychological health at Time 1 as the dependent variable of interest.

**Cross-sectional hypotheses 1 through 3.** In order to test hypotheses one through three with cross-sectional data, I conducted a 2-block hierarchical multiple regression. Service members' psychological health at Time 1 (dependent variable) was first regressed onto their partners' psychological health at Time 1 and demographic control variables (e.g., pay grade) (see Model 1, Table 7). In block 2, I entered service members' emotion expression, emotion processing, and avoidance at Time 1 (see Model 2, Table 7). Results indicated that the control variables entered in block 1 accounted for a statistically significant amount of variance in service members' psychological health at Time 1 ( $R^2 = .23, p < .05$ ). Partners' self-reported psychological health at Time 1 was significantly associated with their service members' self-reported psychological health at Time 1 ( $\beta = .36, p < .05$ ), even after controlling for service members' pay grade, age, number of children living in the home, and number of months that elapsed between return from deployment and data collection at Time 1.

The change in  $R^2$  from Model 1 to Model 2 was also statistically significant ( $\Delta R^2 = .22, p < .01$ ), indicating that Model 2 explained an additional 22% of the variance in service members' psychological health at Time 1. Further, the standardized regression weights ( $\beta$ ) for service members' emotion expression ( $\beta = .39, p < .05$ ) and avoidance ( $\beta = -.30, p < .05$ ) were statistically significant (see Model 2, Table 7). Hence, a one-unit increase in service members' emotion expression at Time 1 was associated with a .39 increase in their self-reported psychological health at Time 1 (at average levels of emotion processing and avoidance). This finding provided empirical support for

hypothesis 2; after controlling for emotion processing and avoidance, the unique association between service members' emotion expression and self-reported psychological health was positive. Conversely, a one-unit increase in service members' avoidance at Time 1 was associated with a .30 decrease in their self-reported psychological health at Time 1 (at average levels of emotion expression and emotion processing). This finding lends empirical support to hypothesis 3; after controlling for emotion processing and expression, the unique association between service member avoidance and self-reported psychological health was negative and significant. The  $\beta$  for service members' emotion processing at Time 1 ( $\beta = -.15, p = .38$ ) was negative and not statistically significant, thus lending empirical support to hypothesis 1. Lastly, I checked tolerance and VIF statistics to ensure that there was enough unique variance in service members' coping strategies that was not redundant. Their emotion expression, emotion processing, and avoidance at Time 1 yielded tolerance statistics greater than .10 (.39, .37, and .55, respectively) and VIFs less than 10 (2.58, 2.68, and 1.81, respectively).

Interestingly, these regression findings indicated that a small degree of suppression may have taken place. Suppression has traditionally been defined as an instance in which the magnitude of the relationship between an independent and dependent variable increases (rather than decreases) when another variable is added to the model (MacKinnon, Krull, & Lockwood, 2000, p. 174). According to Wuensch (2012), two empirical findings were indicative of suppression. First, whereas the bivariate correlation between service members' emotion processing and psychological health at Time 1 was positive ( $r = .25, p < .05$ ; see Table 3), its regression coefficient was negative ( $\beta = -.15, p = .38$ ; see Model 2, Table 7); and second, the beta coefficient for service

members' Time 1 emotion expression ( $\beta = .39, p < .05$ ) was actually greater in magnitude (but of the same sign) than its bivariate correlation with service members' Time 1 psychological health ( $r = .35, p < .01$ ).

Together, these findings indicated that service members' emotion processing may have functioned as a suppressor of variance in emotion expression that was irrelevant to service members' psychological health at Time 1 (Wuensch, 2012). I therefore re-ran Model 2 (see Table 7) with the exception of service members' emotion processing, in order to evaluate change in the magnitude of the beta coefficient for emotion expression. The beta coefficient was reduced to  $.30 (p < .05)$ . Hence, when service members' emotion processing was *not* included in the model, a one-unit increase in their emotion expression was associated with a  $.30$  increase in their self-reported psychological health at Time 1 (as opposed to a  $.39$  increase when their emotion processing was included in the model). In accordance with suppression, service members' emotion expression was *more* strongly related to service members' psychological health in the context of their emotion processing, rather than in isolation.

**Cross-sectional hypotheses 4a & 4b.** In order to test hypothesis 4a with cross-sectional data, I conducted a 3-block hierarchical multiple regression. In the first block, service members' psychological health at Time 1 was regressed onto control variables only (see Model 1, Table 8). In the second block, I entered service members' emotion processing, emotion expression, and avoidance, as well as their partners' emotion processing, emotion expression, and avoidance (see Model 2, Table 8). In the third block, I entered the interaction between service members' avoidance and their partners' emotion expression (see Model 3, Table 8). Results indicated that the interaction between service



members' avoidance and their partners' emotion expression was not statistically significant ( $\beta = -.16, p = .24$ ). According to this analysis, partners' emotion expression did not moderate the relationship between service members' avoidance and service members' psychological health at Time 1; thus, hypothesis 4a was not empirically supported.

A similar 3-block hierarchical multiple regression was run in order to test hypothesis 4b with cross-sectional data (see Table 9). Blocks 1 and 2 were identical to those in Table 8; however, in the third block I added the interaction between service members' emotion expression and their partners' emotion expression (Model 3). Results indicated that the interaction between service members' emotion expression and their partners' emotion expression was not statistically significant ( $\beta = .14, p = .31$ ). According to this analysis, partners' emotion expression did not moderate the relationship between service members' emotion expression and service members' psychological health at Time 1; thus, hypothesis 4b was not empirically supported.

**Main effects for partners' coping.** Although the interaction terms were not statistically significant, I did detect statistically significant main effects for two of partners' coping strategies as predictors of their service members' self-reported psychological health at Time 1. As shown in Model 2 (see Table 8 or 9), partners' emotion processing was positively associated ( $\beta = .37, p < .05$ ) with service members' psychological health, whereas partners' emotion expression was negatively associated ( $\beta = -.43, p < .05$ ). Lastly, I checked tolerance and VIF statistics to ensure that there was enough unique variance in partners' coping strategies that was not redundant with their service members' coping strategies. Partners' emotion expression, emotion processing,

and avoidance yielded tolerance statistics greater than .10 (.49, .47, and .60, respectively) and VIFs less than 10 (2.06, 2.13, and 1.66, respectively). These results indicated that multicollinearity was not a concern (UCLA: Statistical Consulting Group, 2007).

Regression findings from Model 2 (see Tables 8 and 9) were also indicative of suppression. Both the magnitude of the beta coefficients for partners' emotion processing ( $\beta = .37, p < .05$ ) and emotion expression ( $\beta = -.43, p < .05$ ) were substantially larger in absolute magnitude, but of the same sign, as their bivariate correlation coefficients ( $r = .04$  and  $r = -.13$ , respectively) (MacKinnon et al., 2000). According to Wuensch (2012), this phenomenon is characteristic of a specific type of suppression referred to as *cooperative suppression*. In the presence of cooperative suppression, "each predictor suppresses variance in the other that is irrelevant to Y," and consequently, the remaining variance in each predictor is more strongly correlated with the dependent variable (causing the beta coefficients to be larger than the bivariate regression coefficients) (p. 3). According to Wuensch, cooperative suppression is likely to occur when the predictors are strongly correlated in the positive direction—but negatively correlated with the dependent variable. In the current study, partners' emotion processing and expression were significantly correlated in the positive direction ( $r = .66, p < .01$ ); however, the bivariate correlation between partners' emotion expression and service members' psychological health at Time 1 was negative ( $r = -.13, p = .26$ ), and the bivariate correlation between partners' emotion processing and service members' psychological health at Time 1 was close to zero ( $r = .04, p = .72$ ) (see Table 3). I therefore re-ran Model 2 (see Tables 8 and 9), first with the exception of partners' emotion processing,

and then with the exception of partners' emotion expression, in order to evaluate change in the magnitude of the beta coefficients.

When partners' emotion processing was excluded, the beta coefficient for their emotion expression was reduced to  $-.23$  ( $p = .12$ ). When partners' emotion expression was excluded, the beta coefficient for their emotion processing was reduced to  $.13$  ( $p = .36$ ). Thus, partners' emotion processing and emotion expression were *more* strongly associated with service members' psychological health at Time 1 when both were included in the model. These findings indicated that: (1) the variance unique to partners' emotion processing, not shared with emotion expression, was more positively related to service members' psychological health than its total variance; and (2) the variance unique to partners' emotion expression, not shared with emotion processing, was more negatively related to service members' psychological health than its total variance.

Figure 2 illustrates the statistically significant coping predictors of service members' self-reported psychological health at Time 1. Service members' emotion expression was positively associated ( $\beta = .39, p < .05$ ) with their psychological health, and their partners' emotion expression was negatively associated ( $\beta = -.43, p < .05$ ). The unique relationship between service members' emotion processing and their psychological health was not statistically significant ( $\beta = -.15, p = .38$ ), however the bivariate relationship ( $r = .25, p < .05$ ) was. Partners' emotion processing was positively related ( $\beta = .37, p < .05$ ) to service members' psychological health. Lastly, service members' avoidance ( $\beta = -.30, p < .05$ ) was negatively associated with their psychological health, but their partners' avoidance ( $\beta = -.25, p = .09$ ) was unrelated.

## Exploratory Structural Equation Modeling

Given the potential suppression operating between emotion processing and emotion expression, I used structural equation modeling to re-examine the cross-sectional associations. I used structural equation modeling for several reasons. First, one main limitation of regression is the use of observed variables. When utilizing observed variables, there is an assumption that variables are “perfectly measured,” thus free of both random and nonrandom error (Bollen, 1989, p. 151). However, in the social sciences, constructs often contain measurement error. Therefore, I decided to estimate a measurement model with latent variables for emotion processing and emotion expression. This model was used to construct latent variables from observed variables. Further, the use of latent variables, as opposed to mean-scale variables, enabled me to “model out” measurement error, thereby increasing statistical precision and power (Little, 2013).

Another benefit of structural equation modeling is the ability to assess both component fit and global model fit indices (Bollen, 1989). Whereas component fit indices enable a researcher to evaluate individual parameters and relationships, global model fit indices serve as an indication of how well the overall model reproduces actual relationships within the data. I reported both component and global model fit indices in the structural equation models outlined in the following sections. The component fit indices reported in the current study included: factor loadings, regression coefficients, and squared multiple correlations ( $R^2$ ). The global model fit indices that I reported included: (1) the chi-square ( $\chi^2$ ); (2) the Comparative Fit Index (CFI); (3) the Tucker Lewis Index (TLI); and (4) the Root Mean Square Error of Approximation (RMSEA) (Kenny, 2012). A significant  $\chi^2$  is indicative of poor global model fit, meaning that the

specified model does not do an adequate job of reproducing actual relationships that exist within the data. The CFI and TLI are incremental (relative) fit indices. They are interpreted similarly to  $R^2$  in which zero is indicative of the worst possible fit (the null/independence model), and one is indicative of the best possible fit. In contrast, the RMSEA is an absolute measure of fit, meaning that the best fitting model has a value of zero. The RMSEA indexes how far the model is from perfect fit. According to Kenny (2012), models that estimate many parameters (and therefore have few degrees of freedom) with small sample sizes are likely to have artificially high RMSEA estimates. Given the current study's sample size ( $N = 82$  dyads), I evaluated the RMSEA in conjunction with the other fit indices mentioned above.

**Measurement model.** Before estimating a structural model to empirically test relationships between coping strategies and service members' psychological health at Time 1, I estimated a series of measurement models that linked the latent constructs of emotion processing and expression to the observed variables (items) in Stanton and colleagues' (2000a) Emotional Approach to Coping Scale (Bollen, 1989). In accordance with previous exploratory and confirmatory factor analyses (Austenfeld & Stanton, 2004), I hypothesized that there would be two distinct factors (latent variables) within Stanton and colleagues' (2000a) Emotion Approach to Coping Scale: (1) emotion expression and (2) emotion processing. I hypothesized that each factor would be comprised of four items (see Figure 3).

AMOS software (version 21) was used to conduct this CFA (Arbuckle, 2012). Maximum likelihood estimation was used to deal with missing data because it allowed for the full sample size ( $N = 82$  couples) to be retained in analyses, despite missing data

in four cases. Component fit indices (factor loadings and squared multiple correlations) were evaluated in order to determine if the observed indicators (items in the EAC) were adequately represented by each hypothesized latent construct (emotion expression or emotion processing). I also examined the squared multiple correlation ( $R^2$ ) for each observed indicator as a measure of reliability. According to Bollen (1989), the magnitude of each indicator's  $R^2$  indicates the proportion of variance accounted for by the latent construct. Global model fit indices previously mentioned ( $\chi^2$ , CFI, TLI, RMSEA) were also considered as a means of validating measurement models as a whole (Bollen, 1989).

As a preliminary step to conducting the CFA, I first examined correlations among the eight items of Stanton and colleagues' (2000a) Emotional Approach to Coping Scale for both service members and their partners. Inter-item correlations are included in the correlation matrix illustrated in Table 10 (service member correlations are below the diagonal and partner correlations are above the diagonal). As shown in Table 10, the correlations among the first four items (highlighted in yellow) and last four items (highlighted in blue) are high for both service members and their partners. These inter-item correlations indicated that the first four items of the scale (figure out feelings; delve into feelings; realize feelings are valid; and acknowledge emotions) may have been represented by one latent construct—emotion processing, whereas the last four items (let feelings out freely; take time to express emotions; allow oneself to express emotions; and feel free to express emotions) may have been represented by a second latent construct—emotion expression.

The first step in performing the CFA was to fit a latent variable for service members' emotion expression. I included items 5 through 8 as observed indicators of

emotion expression (see Figure 3). As illustrated in Table 11, the single-factor model for service members' emotion expression did not yield strong global model fit indices (TLI = .89; RMSEA = .17). Upon re-examination of the inter-item correlations, it became evident that items 7 (allow oneself to express emotions) and 8 (feel free to express emotions) were more strongly correlated ( $r = .79, p < .01$ ) with each other than they were with any other indicator of emotion expression. This strong correlation was intuitive in consideration of the wording of these items; "allowing one to express emotions" and "feeling free to express emotions" are extremely similar items. I therefore conducted post-hoc modifications and correlated the error terms between items 7 and 8, which improved global model fit (TLI = .95; RMSEA = .05) (see Table 11). All standardized item loadings exceeded .60 and differed reliably from zero ( $p < .001$ ). Squared multiple correlations were also relatively high (ranged from .54 to .82), indicating that at least half the variance in each item (5, 6, 7, and 8) was accounted for by service members' emotion expression.

Next, I conducted the same process for partners to create a latent variable for their emotion expression. As illustrated in Table 11, global model fit indices for partners' emotion expression were strong (TLI = 1.00; RMSEA = .02), but in an effort to keep the latent variables identical for partners and service members, I correlated the error terms between items 7 and 8 for partners as well. Global model fit indices for this model can be found on Table 11. All standardized item loadings exceeded .60 and differed reliably from zero ( $p < .001$ ). Squared multiple correlations were also relatively high (ranged from .67 to .94).

The next step in performing the CFA was to fit a latent variable for service members' emotion processing. I included items 1 through 4 as observed indicators of emotion processing (see Figure 3). As illustrated in Table 11, the single-factor model for service members' emotion processing did not yield strong global model fit indices (TLI = .84; RMSEA = .20). Upon re-examination of the inter-item correlations, it became evident that items 1 (figure out feelings) and 2 (delve into feelings) were more strongly correlated ( $r = .78, p < .01$ ) with each other than they were with any other indicator of emotion processing. This strong correlation was intuitive in consideration of the wording of these items; "figuring out feelings" and "delving into feelings" are extremely similar items that seem to reflect coming to an understanding of one's emotions. I therefore conducted post-hoc modifications and correlated the error terms between items 1 (figure out feelings) and 2 (delve into feelings), which improved global model fit (TLI = 1.04; RMSEA = .00) (see Table 11). All standardized item loadings exceeded .60 and differed reliably from zero ( $p < .001$ ). Squared multiple correlations were also relatively high (ranged from .60 to .77), indicating that at least half the variance in each item (1, 2, 3, and 4) was accounted for by service members' emotion processing.

I conducted the same process for partners to create a latent variable for partners' emotion processing. Global model fit indices for partners' emotion processing were weak (TLI = .59; RMSEA = .30) (see Table 11). The inter-item correlation between items 1 (figure out feelings) and 2 (delve into feelings) was the strongest in magnitude ( $r = .85, p < .01$ ). After correlating the error terms between items 1 and 2, global model fit indices improved (TLI = 1.05; RMSEA = .00) (see Table 11). All standardized item loadings



exceeded .60 and differed reliably from zero ( $p < .001$ ). Squared multiple correlations were also relatively high (ranged from .45 to .78).

After I obtained “good-fitting” models for service members’ emotion expression and emotion processing separately, I estimated a two-factor model that included both latent variables (see Figure 3 for a conceptual model). Global model fit indices for service members’ two-factor model appear in Table 11. All standardized loadings exceeded .60 and differed reliably from zero ( $p < .001$ ) (see Table 12). Further, the correlation between service members’ emotion expression and emotion processing was .72 ( $p < .001$ ). In light of this high correlation, I used nested model testing to test the dimensionality of service members’ emotion expression and emotion processing. I applied a constraint in which the correlation between service members’ emotion expression and emotion processing was forced to be equal to one. The difference in  $\chi^2$  between this constrained model and the freely estimated model was statistically significant ( $\chi^2(1) = 13.05, p < .001$ ), indicating that the constraint may have masked actual differences in the data. I therefore concluded that service members’ emotion expression and emotion processing *were not* perfectly correlated and *were* unique constructs. Lastly, I ran a one-factor model in which all 8 items were included as indicators of one latent variable labeled: “service members’ emotional coping.” This model had poor global model fit (TLI = .58; RMSEA = .30), which provided additional empirical support for the notion of service members’ emotion expression and emotion processing as separate, yet related, latent constructs (see Table 11).

I completed the same process for partners and estimated a two-factor model that included both partners’ emotion expression and emotion processing (see Figure 3 for a

conceptual model). Global model fit indices for partners' two-factor model appear in Table 11. All standardized loadings exceeded .60 and differed reliably from zero ( $p < .001$ ) (see Table 12). Further, the correlation between partners' emotion expression and emotion processing was .81 ( $p < .001$ ). In light of this high correlation, I used nested model testing to test the dimensionality of partners' emotion expression and emotion processing. I applied a constraint in which the correlation between partners' emotion expression and emotion processing was forced to be equal to one. The difference in  $\chi^2$  between this constrained model and the freely estimated model was statistically significant ( $\chi^2(1) = 9.83, p < .01$ ), indicating that the constraint may have masked actual differences in the data. I therefore concluded that partners' emotion expression and emotion processing *were not* perfectly correlated and *were* unique constructs. Lastly, I ran a one-factor model in which all 8 items were included as indicators of one latent variable that I labeled "partners' emotional coping." This model had poor global model fit (TLI = .59; RMSEA = .27), which provided additional empirical support for the notion of partners' emotion expression and emotion processing as separate, yet related, latent constructs (see Table 11).

In the final step of the CFA, I estimated one model that combined: service members' emotion expression, service members' emotion processing, partners' emotion expression, and partners' emotion processing. I also included service members' avoidance (observed observed) and their partners' avoidance (observed variable) (see Figure 4). As illustrated in Figure 4, I estimated correlations between: service members' emotion expression, emotion processing, and avoidance; partners' emotion expression, emotion processing, and avoidance; service members' avoidance and their partners'

avoidance; and service members' emotion processing and their partners' emotion processing. These particular variables were allowed to correlate in the measurement model because of statistically significant bivariate correlations in Table 3. This measurement model had relatively strong global model fit (TLI = .93; RMSEA = .07). All standardized factor loadings exceeded .60 and differed reliably from zero ( $p < .001$ ) (see Figure 4).

In a final attempt to test dimensionality of emotion expression and emotion processing, I used nested model testing within the complete measurement model (see Figure 4). I applied the following constraints: (1) the correlation between service members' emotion expression and emotion processing was constrained to equal one and; (2) the correlation between service members' emotion expression and avoidance was constrained to be equal to the correlation between service members' emotion processing and avoidance. Adding these constraints implied that service members' emotion expression and emotion processing were the same construct (thus they were perfectly correlated with each other and had identical correlations with avoidance). The difference in  $\chi^2$  between this constrained model and the freely estimated model was statistically significant ( $\chi^2(2) = 14.84, p < .01$ ), indicating that the constraints may have masked actual differences in the data. I therefore concluded that service members' emotion expression and emotion processing were unique constructs.

Lastly, I removed the constraints for service members' coping strategies and set the correlation between partners' emotion expression and emotion processing equal to one. I also set the correlation between partners' emotion expression and avoidance equal to the correlation between partners' emotion processing and avoidance. The difference in

$\chi^2$  between this constrained model and the freely estimated model was also statistically significant ( $\chi^2 (2) = 13.70, p < .01$ ), indicating that partners' emotion expression and emotion processing were not perfectly correlated and were differentially correlated with their avoidance. In sum, I concluded that emotion expression and emotion processing were separate, yet related, latent constructs for both service members and their partners. The measurement model in Figure 4 served as the basis for all subsequent structural models estimated in the current study.

**Structural model.** I estimated a structural model to predict service members' psychological health at Time 1 from the following variables: service members' emotion expression, their partners' emotion expression, service members' emotion processing, their partners' emotion processing, service members' avoidance, and their partner's avoidance (Figure 5). I also controlled for partners' self-reported psychological health at Time 1 in this analysis by: (1) including it as a predictor; and (2) correlating it with all other predictors in the model. As illustrated in Figure 5, service members' avoidance ( $\beta = -.29, p < .05$ ) and their partners' avoidance ( $\beta = -.31, p < .05$ ) were significant, negative, predictors of service members' psychological health. Neither service members' emotion processing ( $\beta = -.07, p = .68$ ) nor their partners' emotion processing ( $\beta = .24, p = .25$ ) was a statistically significant predictor. Lastly, partners' emotion expression ( $\beta = -.51, p < .05$ ) was a significant, negative, predictor of service members' psychological health. Service members' own emotion expression ( $\beta = .27, p = .08$ ) was positively associated with their psychological health, but did not reach a level of statistical significance. Global model fit indices for this model are reported below Figure 5 (TLI = .91; RMSEA = .08). The squared multiple correlation ( $R^2$ ) for service members' Time 1 psychological health in

this model was .45, indicating that this set of predictors accounted for 45% of the variance in service members' psychological health.

These findings partially coincided with the cross-sectional regression findings previously discussed. First, the findings that were the same across the regression and structural equation model included: (1) service members' avoidance was a significant, negative, predictor of their psychological health; (2) partners' emotion expression was a significant, negative, predictor of their service members' psychological health; and (3) service members' emotion processing was not a significant predictor of their own psychological health. Findings that differed across the methods included: (1) partners' avoidance reached statistical significance as a negative predictor in the structural equation model, but not in the regression analysis; (2) partners' emotion processing reached statistical significance as a positive predictor in the regression analysis, but not in the structural equation model; and (3) service members' emotion expression reached statistical significance as a positive predictor in the regression analysis, but not in the structural equation model. Importantly, all predictors were related to service members' psychological health at Time 1 in the same direction regardless of method—differences across methods were only in magnitude and statistical significance. With the exception of partners' emotion expression, the use of latent variables reduced the magnitude of the relationship between the coping predictor (e.g., service members' emotion expression) and service members' psychological health—a likely consequence of modeling out measurement error (Little, 2013).

### Exploratory Analyses Regarding Partners' Emotion Expression

The remaining analyses in the current study aimed at further exploring the rather unexpected finding (via both regression and structural equation models) that partners' emotion expression was negatively associated with their service members' psychological health. I had hypothesized that partners' use of emotion expression would serve as a protective factor for service members who engage in low levels of emotion expression, or high levels of avoidance. Even after modeling out measurement error via the use of latent variables, partners' emotion expression ( $\beta = -.51, p < .05$ ) had the strongest magnitude of all the predictors in the current study (see Figure 5). Although partners' emotion expression was negatively associated with service members' psychological health, partners' emotion processing was positively associated. In an attempt to better understand these relationships, I re-ran the same structural model illustrated in Figure 5 separately for couples in which partners reported "high" ( $N = 36$ ) versus "low" ( $N = 42$ ) use of emotion processing as a coping strategy, and I evaluated differences in the  $\beta$  for partners' emotion expression. Partners were classified as exhibiting "low" levels of emotion processing if their mean score (observed variable) was less than 3 ( $N = 42$ ) on the 4-point scale. Conversely, partners were classified as exhibiting "high" levels of emotion processing if their 1 mean score was greater than or equal to 3 ( $N = 36$ ).

First, I re-ran the structural model illustrated in Figure 5 for couples in which partners reported low levels of emotion processing ( $N = 42$ ). As illustrated in Figure 6, the standardized regression coefficient for partners' Time 1 emotion expression ( $\beta = -.43, p < .01$ ) was similar to the standardized regression coefficient for the entire sample ( $\beta = -.51, p < .05$ ; see Figure 5). Next, I re-ran the same structural model for couples in which

partners reported high levels of emotion processing ( $N = 36$ ). As illustrated in Figure 7, the standardized regression coefficient for partners' emotion expression ( $\beta = -.26, p = .06$ ) was reduced to approximately half the magnitude of the standardized regression coefficient for the entire sample ( $\beta = -.51, p < .05$ ; see Figure 5) and was no longer a statistically significant, negative, predictor of service members' psychological health.

Taken together, the structural models (Figures 5, 6, and 7) indicated that the negative association between partners' emotion expression and their service members' psychological health at Time 1 was stronger for couples ( $N = 42$ ) in which partners reported low levels of emotion processing. I therefore categorized couples into groups based on the coping constellation of the partner (high vs. low levels of partners' emotion processing and emotion expression). I classified couples ( $N = 78$ ) into 4 groups: (1) partners with high emotion expression *and* low emotion processing ( $N = 14$ ); (2) partners with high emotion processing *and* low emotion expression ( $N = 6$ ); (3) partners with high emotion processing *and* high emotion expression ( $N = 30$ ); and (4) partners with low emotion expression *and* low emotion processing ( $N = 28$ ). Interestingly, self-reported psychological health at Time 1 was lowest ( $M = 2.92, SE = .29$ ) among service members ( $N = 14$ ) with partners who reported high levels of emotion expression *and* low levels of emotion processing (see Table 13). Self-reported psychological health was highest ( $M = 3.90, SE = .19$ ) among service members ( $N = 30$ ) with partners who reported high levels of both emotion expression *and* emotion processing. Taken together, these findings indicated that partners' high use of emotion expression, coupled with their low use of emotion processing, was negatively associated with service members' psychological health.

## DISCUSSION

The first aim of the current study was to evaluate the unique associations among service members' emotion processing, emotion expression, avoidance, and their self-reported psychological health during reintegration. This aim was particularly relevant to the population under study: male service members who recently returned from a combat-zone deployment. Upon returning home, service members are likely coping with strong emotions related to deployment stressors (e.g., knowing someone seriously ill or injured) (Hoge et al., 2004). Service members are also tasked with loosening emotional constriction as they reconnect with themselves and their family members in a post-deployment environment, which may look different from that of predeployment (Bowling & Sherman, 2008; Faber et al., 2008). Both coming to an understanding of emotions and communicating emotions may be particularly challenging for male service members. Traditional gender roles, coupled with military training, likely reinforce male service members' attempts to remain self-reliant and unemotional (Hoyt, 2009).

Intimate partners also experience, and are affected by, deployment-induced transitions, which require military couples to reorganize and reconnect during reintegration (Drummet et al., 2003; Erbes et al., 2008). Therefore, I adopted a family systems perspective and defined coping as an interpersonal phenomenon (Hobfoll et al., 1996). I utilized a dyadic coping model to evaluate whether service members'



coping strategies and their partners' coping strategies interacted to predict service members' psychological health (Bodenmann, 2005; Berghuis & Stanton, 2002). Thus, the second aim that guided the current study was to evaluate whether partners' use of emotion expression moderated relationships between: (1) service members' use of avoidance and their psychological health; and/or (2) service members' use of emotion expression and their psychological health. I had hypothesized that partners' high use of emotion expression would serve as a protective factor for service members' psychological health.

### **Associations between Time 1 & Time 2**

In accordance with my data analytic plan, I first examined the unique associations between service members' emotion processing, emotion expression, and avoidance at Time 1 with their self-reported psychological health at Time 2. However, after accounting for service members' psychological health at Time 1, regression analyses revealed that no other predictors included in the model were significantly associated with their psychological health at Time 2. Second, I evaluated the statistical significance of two interaction terms in order to determine if partners' emotion expression at Time 1 moderated relationships between: (1) service members' avoidance and their psychological health; and/or (2) service members' emotion expression and their psychological health. Neither of these interaction terms was statistically significant, indicating that partners' emotion expression did not act as a moderator as hypothesized in the current study.

One plausible explanation for these null findings is that, on average, there was *not* a statistically significant amount of intra-individual change in service members'

psychological health from Time 1 to Time 2. This may be a result of several factors. First, variants of the single-item measure that was used to measure psychological health in the current study have been found to be relatively stable indicators over time. For example, Miilunpalo and colleagues (1997) found that about 60% of their sample rated their self-perceived health at the same level for initial and follow-up questionnaires one year later. Thus, the overall lack of intra-individual change in service members' self-reported psychological health from Time 1 to Time 2 may have been a result of how the dependent variable was operationalized.

Second, other research has indicated that self-reported well-being is relatively stable for the majority of service members post-deployment—even when operationalized with multiple-item indicators. For example, Bonanno and colleagues (2012) found that over 80% of U.S. military service members in their sample self-reported stable, low levels of post-traumatic stress at initial and follow-up measurement occasions (each separated by three years). Thus, regardless of the nature of the dependent variable, I may not have captured significant intra-individual change in service members' psychological health during reintegration because most service members report relatively stable trajectories of well-being throughout this period.

An additional explanation for null findings across time is that the coping strategies under evaluation in the current study may have had stronger, more notable implications for service members' psychological health within a shorter timeframe. Despite variation in timing of data collection, the first measurement occasion (Time 1) for each service member was within his first year home from deployment, and the second measurement occasion (Time 2) was within his second year home from deployment. The

impact of emotion processing, emotion expression and avoidance on service members' psychological health may have been more evident on a day-to-day or month-to-month basis. Researchers have speculated that the benefits of emotional coping include: disclosure to social support; enhancement of close relationships via self-disclosure; and reduction of negative feelings (Hassija et al., 2012; Manne et al., 2004). Emotion regulation and social support resources may yield more immediate, rather than prolonged, benefits for service members' psychological health. In fact, Stanton and colleagues (1994) found that, after controlling for baseline adjustment, emotional approach to coping was a weaker predictor of adjustment one month later. In light of these plausible explanations, I decided to test the same research hypotheses I had originally outlined with cross-sectional data. In the remaining sections of this chapter, I discuss findings from my cross-sectional analyses and their relevance to my original research aims and hypotheses.

### **Cross-Sectional Hypotheses 1 through 3**

In accordance with hypothesis 1, after controlling for their emotion expression and avoidance, service members' emotion processing was *not* significantly associated with their psychological health. This finding was consistently detected in both the regression and structural equation model analyses conducted in the current study. Hassija and colleagues (2012) similarly found that, upon controlling for emotion expression, emotion processing yielded no health benefits (e.g., a reduction in depressive symptoms) for a sample of trauma-exposed veterans seeking outpatient care. Civilian studies have also found that, after controlling for emotion expression, emotion processing and well-being were not significantly related (e.g., Manne et al., 2004). However, in accordance with hypothesis 1, absent emotion expression and avoidance as controls, the association

between service members' emotion processing and their psychological health was significant and positive. Previous research has also detected a significant, bivariate, association between emotion processing and well-being (e.g., Mosher et al., 2006).

Together, these findings indicated that emotion processing may be beneficial for service members' psychological health "to the extent that processing contributes to emotional expression" (Stanton et al., 2000b, p. 880). In other words, taking time to understand one's emotions (emotion processing) may yield positive benefits for service members' psychological health only if they also externally communicate their emotional understanding to others (emotion expression). In sum, although the total variance in service members' emotion processing was significantly, positively associated with their psychological health, the variance unique to service members' emotion processing was unrelated to their psychological health. Interestingly, others have found that the variance unique to emotion processing was negatively related to well-being (e.g., Stanton et al., 2000b). Stanton and colleagues (2002) have even suggested that the variance unique to emotion processing, not shared with emotion expression, represents a ruminative component that is maladaptive. In the current study, the unique association between service members' emotion processing and their psychological health was negative but did not reach a level of statistical significance.

In accordance with hypothesis 2, the unique association between service members' emotion expression and their self-reported psychological health was positive and statistically significant in the regression analysis. This finding was consistent with Hassija and colleagues' (2012) results in which service members' emotion expression was related to both lower levels of PTSD symptoms and depressive symptoms. The

authors offered plausible explanations for the utility of emotion expression for service members, one of which was increased access to social support. Civilian studies have found empirical support for this explanation. For example, in a study of patients coping with diagnosis/risk for malignant melanoma, Lichtenthal and colleagues (2003) found that patients' emotion expression was positively associated with their partners' report of providing social support. Thus, emotional coping may facilitate patients in getting their needs met. However, researchers have found that, even after controlling for seeking/receiving social support, emotion expression remains a statistically significant predictor of adjustment (Stanton, Danoff-Burg, Cameron, & Ellis, 1994). Therefore, although social support may be *one* mechanism through which emotion expression operates, it is likely not the *only* contributing factor.

Another plausible explanation for the protective value of emotion expression was that it served as means through which service members regulated their emotions (Hassija et al., 2012). According to Ochsner and Gross (2005), emotion regulation involves the processes that aid individuals in the generation, experience, and expression of emotions. Empirical research with civilian samples has detected significant, positive associations between emotional approach coping and individuals' clarity/attention to feelings (e.g., perception of emotions, management of emotions, affect awareness). These associations were typically stronger for emotion expression than they were for emotion processing (e.g., Lumley, Gustavson, Partridge, & Labouvie-Vief, 2005). Baker and Berenbaum (2007) also found that being communicative and attentive to emotions was associated with higher levels of positive affect in their civilian sample. Thus, emotion regulation may be another mechanism through which emotion expression operates.

Interestingly, the positive association between service members' emotion expression and their psychological health was not statistically significant in the structural equation model conducted in the current study. Thus, after extracting measurement error via the use of latent variables, the positive association between service members' emotion expression and their psychological health was reduced. This finding warrants further investigation as other researchers have found that the benefit of emotion expression for veterans is qualified by an interaction with their perception of how their emotional disclosure affects their partners and intimate family members. For example, Hoyt (2009) found that emotion expression was an adaptive coping strategy for a sample of male veterans coping with cancer; however, this relationship was conditioned upon their perception of social constraints (e.g., that expressing cancer-related emotions made their partners uncomfortable). Thus, in the presence of high social constraints, emotion expression was actually related to an increase in veterans' psychological distress.

Other researchers have also speculated that the benefit of talking with others about one's emotions is dependent on whether or not the social context in which such discussions take place is supportive and receptive to such emotional dialogue (Badr & Carmack Taylor, 2006; Stanton, 2011). This perception may be particularly salient for male service members who recently returned from a combat-zone deployment. During deployment, service members were likely immersed in a social context that was *not* receptive to such emotional disclosure. In fact, qualitative research with a sample of former male service members found that expressing emotional distress was perceived as threatening to one's masculinity; consequently, participants lacked a language that would have enabled them to express their distress (Green, Emslie, O'Neill, Hunt, & Walker,

2010). In light of an immediate shift from the military to home life, the relationship between service members' emotion expression and their psychological health may very well depend on their perception of "the receptiveness of the interpersonal milieu" in which they express emotions (Stanton, 2011, p. 375). Thus, the lack of a statistically significant main effect for service members' emotion expression in the structural equation model may be attributed to an unmeasured interaction with their perception of receptiveness to emotional disclosure within their homes.

Lastly, in accordance with hypothesis 3, the unique association between service members' avoidance and their psychological health was negative and statistically significant. This relationship was detected in both the regression and structural equation model analyses conducted in the current study. Similarly, Hassija and colleagues (2012) and Rodrigues and Renshaw (2010) found that service members' avoidant coping was positively associated with PTSD/depressive symptom severity. Researchers have also found that use of avoidance as a strategy for coping with emotional difficulties since returning from deployment was positively associated with anger in male OEF/OIF veterans, even after controlling for their PTSD symptoms (Renshaw & Kiddie, 2012). Similarly, other research has indicated that the use of avoidant coping strategies, such as denial and disengagement, exacerbated negative effects of work stressors (e.g., overload) on self-perceived health symptoms for military personnel (Day & Livingstone, 2001). Taken together, these results highlight the deleterious effects of avoiding emotions for service members during reintegration.

### **Cross-Sectional Hypotheses 4a & 4b**

Neither hypothesis 4a nor 4b was empirically supported in the current study, indicating that partners' emotion expression did not moderate the relationships between service members' coping (avoidance and emotion expression) and their psychological health. First, partners' high use of emotion expression did not buffer the negative relationship between service members' avoidance and psychological health. This finding does not lend support to Badr's (2004) complementarity hypothesis; highly avoidant service members did not seem to benefit from their partners' own emotion expression. Second, partners' high use of emotion expression did not strengthen the positive relationship between service members' emotion expression and psychological health. This finding was in accordance with those of Berghuis and Stanton's (2002) study of couples coping with infertility. In their study, Berghuis and Stanton detected a significant interaction between partners' use of emotion expression when predicting wives' well-being, but not husbands'.

I had originally hypothesized that female partners' reports of high use of emotion expression would serve as a protective factor for service members because it would signify partners' receptiveness to the use of emotion expression as a coping strategy. This, in turn, would intensify the efficacy of service members' emotion expression or buffer against the detrimental effects of service members' avoidance (Hoyt, 2009). However, it may be that partners freely express their own emotions *and* place social constraints on their service members' attempts to do the same. For example, the wife of a service member may feel free to openly express emotions surrounding her experience of deployment (e.g., the fear she felt on days she did not hear from him) but discourage her



husband from sharing his own emotional experiences (e.g., not wanting to hear about dangerous situations he was in during deployment because it upsets her). In fact, Sahlstein and colleagues (2009) found that many Army wives in their sample felt uncomfortable when their husband wanted to discuss combat-related experiences post-deployment and “would rather not fully understand combat life,” especially when they knew their husbands would re-deploy (p. 435).

An alternative explanation may be that, regardless of the degree to which partners convey that they are receptive to service members’ disclosure of emotions, male service members who recently returned from a combat-zone deployment are still functioning within a military mindset that stresses emotional constriction, rather than emotional disclosure (Bowling & Sherman, 2008). Service members’ perceptions of social constraints surrounding their expression of emotions during reintegration is an unmeasured variable in the current study that warrants further investigation in future research.

Lastly, it may also be that my hypotheses regarding the protective value of female partners’ emotion expression for male service members’ psychological health simply were not supported because partners’ emotion expression is not a protective factor. Thus, partners’ emotion expression does not moderate relationships between service members’ own coping strategies and service members’ psychological health. Berghuis and Stanton (2002) also failed to find empirical support for an interactive model between husbands’ and their wives’ emotion expression when predicting husbands’ well-being. Despite a larger sample size, I similarly failed to detect a statistically significant interaction.

### **Main Effects for Partners' Coping**

Interestingly, I did detect statistically significant, direct associations between partners' coping and service members' self-reported psychological health. First, partners' emotion expression was negatively associated with service members' psychological health; this finding was robust in both the regression and structural equation model analyses conducted in the current study. Contrary to my original hypotheses, these results seemed to indicate that partners' emotion expression was unfavorable for service members' psychological health, regardless of service members' own coping strategies. Thus, while service members' own emotion expression was advantageous for their psychological health, their partners' use of the same coping strategy was actually detrimental. This discrepancy highlights the fundamental rationale for studying coping as a dyadic, interpersonal phenomenon. In fact, Hobfoll and colleagues (1996) have questioned whether coping strategies that are considered "adaptive" for individuals' well-being are also adaptive for that of their significant others, and vice versa. Although other researchers have found that wives' emotion expression did not yield any protective value for their husbands' well-being (e.g., Berghuis & Stanton, 2002), I was unable to locate any other studies that have detected a negative relationship between one partner's emotion expression and the other's well-being. To my knowledge, this is the first study to evaluate associations between partners' emotional approach to coping and service members' well-being during reintegration.

It may be that service members who recently returned from a combat-zone deployment are negatively implicated by their partners' expression of feelings/emotions because they are already coping with their own strong emotions surrounding both

deployment and reintegration stressors. According to the Army's Composite Life Cycle Model, stressors from each domain of service members' lives (unit stress, career stress, and family stress) can accumulate over time and burden service members (U.S. Army, 2010). In addition to coping with the aftermath of stressors experienced during deployment, service members and their partners are tasked with reorganizing and reestablishing intimacy during reintegration (Drummet et al., 2003). Importantly, Sahlstein and colleagues' (2009) qualitative study explored how Army couples balanced openness versus closeness of emotional communication during reintegration; however, their study was limited to wives' perspectives. Thus, the authors gained valuable insight about how service members' emotional disclosure of combat-related details negatively affected a majority of wives in their sample, but we still know relatively little about the nature of partners' emotional disclosure during reintegration, and how it may impact service members' psychological health.

Second, partners' emotion processing was positively associated with service members' psychological health. This association was statistically significant in the regression analysis. Although partners' external communication of their emotions was negatively associated with service members' psychological health, partners' internal understanding of their emotions was positively associated with service members' psychological health. One plausible mechanism through which partners' emotion processing may yield benefits for service members' psychological health is through empathy. In a study of patients and their partners coping with malignant melanoma, Lichtenthal and colleagues (2003) detected a strong, positive association between partners' emotion processing and their own empathy (e.g., having tender/concerned

feelings for others). Empathy may be an especially important factor in helping partners decipher what thoughts/feelings to disclose to their formerly deployed service members during reintegration (Sahlstein, Maguire, & Timmerman, 2009).

It is important to note, however, that the positive association between partners' emotion processing and service members' psychological health was not statistically significant in the structural equation model conducted in the current study. Thus, once measurement error was extracted via the use of latent variables, and the correlation between partners' emotion processing and expression increased, the variance unique to partners' emotion processing was not significantly related to service members' psychological health.

In an attempt to better understand the relationship between partners' emotional coping and service members' self-reported psychological health, I separated couples into two groups based on the level (high versus low) of partners' emotion processing and then ran separate structural equation models for each group. In light of the positive association between partners' emotion processing and service members' psychological health, I was interested in evaluating the difference in the magnitude of the negative relationship between partners' emotion expression and service members' psychological health for these two groups.

Results indicated that the negative association between partners' emotion expression and service members' psychological health was more robust for couples with partners who reported low levels of use of emotion processing. Upon further investigation of group means, results indicated that self-reported psychological health was lowest among service members with partners who reported high levels of emotion

expression *and* low levels of emotion processing. In contrast, psychological health was highest among service members with partners who reported high levels of both emotion expression *and* emotion processing.

Taken together, these findings indicated that partners' external communication of emotions, in the absence of a thorough, internal understanding of such emotions, may be detrimental for service members' psychological health. Conversely, by coming to an understanding of their emotions, partners may gain an emotional clarity that potentially influences: (1) how they communicate their emotions; and (2) how their emotional communication is related to service members' psychological health. Interestingly, Austenfeld and Stanton (2004) hypothesized that emotion processing and emotion expression are most useful when used sequentially, such that emotion expression follows emotion processing. More specifically, it may be that individuals benefit from expressing their emotions once they have had a chance to understand their feelings. To my knowledge, this sequential relationship has yet to be empirically tested. However, it may be that the sequential use of emotion processing, followed by emotion expression, is adaptive for both individuals' well-being and their partners' well-being. Within the context of the current study, partners' emotion processing may aid them in deciphering what emotions to share, when to share emotions, and how to share their emotions with service members during reintegration. The emotional communication that follows (or occurs in the presence of) this thought process may be qualitatively different than that which does not. Such differences may, in turn, be significantly related to service members' self-reported psychological health.

Lastly, partners' avoidance was negatively associated with service members' psychological health. This association was not statistically significant in the regression analysis but was statistically significant in the structural equation model. I believe this difference can be attributed to power and sample size differences (Shadish et al., 2001). In the regression analysis, listwise deletion was used to handle missing data, and thus power was lost because the sample size was reduced. In the structural equation model analysis, maximum likelihood estimation was used and the full sample size was retained despite missing data (Bollen, 1989). Regardless, the magnitude of the negative association between partners' avoidance and service members' psychological health was comparable across both methods.

Studies focused on civilian couples coping with health-related stressors have found that one partner's use of avoidance was unfavorable for the well-being of his/her partner. For example, Berghuis and Stanton (2002) found that wives' avoidance was detrimental for their husbands' well-being. More specifically, they found that, even after controlling for husbands' own coping strategies, their wives' avoidance predicted an increase in their depressive symptoms over time. Similarly, Ben-Zur and colleagues (2001) found partners' avoidant strategies (e.g., denial) were related to patients' distress above and beyond patients' own coping strategies.

In a qualitative study, Badr and Carmack Taylor (2006) found that partners used avoidant coping strategies (e.g., avoid talking about the illness itself or their own feelings of depression/anxiety) as a means to protect their ill loved-ones from experiencing additional stress. However, patients reported that their partners' avoidance was stressful. For example, one female patient shared: "It puts a stress on me, his not telling me what

he thinks, how he feels. Sometimes I get more worried about that than about what I'm going through" (p. 678). Similarly, research with military couples (e.g., Joseph & Afifi, 2010) has demonstrated that some partners actively choose to withhold information from service members (e.g., "I kept all bad news from him") during deployment in order to protect service members from experiencing additional stress (p. 420). Researchers have hypothesized that this type of emotional constriction blocks the re-structuring processes that facilitate emotional reconnection between service members and their partners during reintegration (Bowling & Sherman, 2008). Further research is needed to better understand the relationship between partners' use of emotional avoidance during reintegration and its impact on service members' self-reported psychological health.

### **Limitations**

Several limitations of the current study warrant discussion. First, I did not detect any statistically significant associations between coping strategies utilized by service members and their partners at Time 1 and service members' psychological health at Time 2, thus the associations that I did detect were all cross-sectional. Inability to establish directionality of associations is therefore a limitation in the current study. For example, service members' communication of emotions during reintegration may not increase their self-reported psychological health. Rather, service members who rate their psychological health as high may be more likely to freely express their emotions. Similarly, service members who report low levels of psychological health may be more likely to rely on avoidance as a coping strategy during reintegration. Thus, avoidance may not "cause" poor psychological health in service members. However, regardless of directionality, the significant associations between coping strategies utilized by service members and their

partners and service member's self-reported psychological health provide a foundation for evaluating the intersection of health, stress, and coping for military couples during this transitional period.

Second, because the unit of analysis in the current study was couples, rather than individuals, the analytic sample size was reduced, and thus statistical power was limited (Shadish et al., 2001). Despite a limited sample size, however, I did detect some statistically significant associations between coping strategies utilized by both service members and their partners with service members' psychological health. The negative association between partners' emotion expression and service members' psychological health at Time 1, for example, had a moderately large effect size. The current study therefore provides a rationale for future researchers to reevaluate these associations with a larger sample size.

Third, the generalizability of these results is limited. All service members in the current sample identified as male, and all partners identified as female. Thus, being a service member was confounded with being male, and being a partner was confounded with being female. However, within the context of the current study, I was specifically interested in evaluating the utility of emotional approaches to coping for male service members as they transitioned from deployment to home life. Traditional social constructions of masculinity, coupled with military training, likely reinforce male service members' attempts to remain self-reliant and unemotional (Hoyt, 2009). Reintegration is therefore a critical, transitory time to evaluate the utility of coping strategies that enable male service members to approach their emotions versus avoiding them. Further, in light of social support literature that suggests that men benefit from the social coping resources



of their partners (e.g., Shumaker & Hill, 1991); I was interested in evaluating whether female partners' own emotion expression served as a protective factor for male service members' psychological health throughout this transitional period.

Lastly, there were some notable measurement limitations in the current study. First, the correlation between emotion processing and emotion expression was moderately high for both service members and their partners. This high correlation brings into question the interpretability of the unique relationships between each variable and service members' psychological health. Also, there seemed to be some evidence of suppression operating between these variables. However, upon examination of VIFs and tolerance statistics for service-member-reported and partner-reported data, there was enough unique variance in both emotion processing and emotion expression, indicating that the degree of multicollinearity was not problematic. Although other researchers (e.g., Smith et al., 2002) have used a composite score, I decided to treat emotion processing and emotion expression as separate variables because I was specifically interested in evaluating their unique associations with service members' psychological health (e.g., was the variance unique to emotion processing that did not lend itself to emotion expression actually maladaptive?).

Finally, the dependent variable utilized in the current study was a single-item, self-reported indicator of well-being. Although single-item global health indicators have high predictive validity, they are also relatively stable over time (Miilunpalo et al., 1997). Results indicated an overall lack of change in service members' self-reported psychological health from Time 1 to Time 2 in the current study. Consequently, my

ability to predict change variance in service members' psychological health from Time 1 to Time 2 was extremely limited.

### **Recommendations for Future Research**

Future research should expand upon the current work in several important ways. First, further exploration of potential moderators and mediators of the relationships between service members' coping and their psychological well-being during reintegration is needed. In terms of potential moderators, service members' perception of social constraints related to expressing emotions during reintegration may moderate the positive association between service members' emotion expression and their well-being. In accordance with Hoyt's (2009) findings, service members' emotion expression may actually be maladaptive in the presence of high social constraints. Also, service members' degree of combat exposure may moderate the negative association between service members' use of avoidance and their well-being. According to Rodrigues and Renshaw (2010), service members' use of avoidance actually ameliorated PTSD symptom severity for service members with high levels of combat exposure. However, the authors acknowledged that service members who engage in high levels of avoidance may not be likely to endorse psychological symptoms on an interview/survey. Therefore, further evaluation of combat exposure as a potential moderator of the negative association between service members' avoidance and their well-being is necessary.

In terms of mediating variables, the role of social support as a mechanism through which service members' emotion expression yields positive health benefits for service members has yet to be empirically tested. Although Hassija and colleagues (2012) have suggested that social support may be one mechanism through which service members'

emotion expression operates, there is currently no empirical support for this explanation with a sample of military couples coping with deployment-induced transitions. Second, future research should aim to explore mechanisms through which service members' avoidance yields negative health benefits for their well-being during reintegration. Although some research has indicated that avoidance is linked to increased anger (e.g., Renshaw & Kiddie, 2012), little else is known about how service members' use of avoidance as a coping strategy during reintegration impacts their ability to reestablish emotional connections with themselves and with their intimate partners. Researchers have hypothesized that emotional constriction blocks the re-structuring processes that facilitate emotional reconnection during reintegration (e.g., Bowling & Sherman, 2008); however this hypothesis has yet to be empirically tested.

Future research is also needed to explore the rather surprising finding that partners' emotion expression may be adversely related to service members' psychological well-being during reintegration. In order to better understand this relationship, we first need to gain more insight into what emotions partners communicate and how they communicate them to service members. Qualitative research has indicated that partners experience uncertainty about how open they should be with service members regarding their emotions post-deployment (Sahlstein et al., 2009). We know relatively little about the nature of partners' emotional disclosure during reintegration and how it may impact service members' psychological health. Second, future research should empirically test the sequential hypothesis put forth by Austenfeld and Stanton (2004). Empirical research is needed in order to evaluate if the emotion expression that follows partners' own

internal emotion processing is qualitatively different from that which does not. Such differences may be related to service members' well-being throughout reintegration.

Lastly, future research should evaluate relationships between service members' coping strategies and their partners' well-being. In accordance with both family systems theory and a dyadic coping perspective, partners' well-being is also likely implicated by the coping strategies utilized by service members (Cox & Paley, 2003). Structural equation modeling techniques (e.g., Actor Partner Interdependence Models) would allow future researchers to simultaneously estimate actor effects (relationships within both service members and partners, respectively) and partner effects (cross-over effects from service members to partners and vice versa) when evaluating relationships between coping strategies and well-being during reintegration.

### **Contributions**

The current study adds to existing literature in several integral ways. First, I adopted a dyadic coping perspective and considered associations between partners' emotional approach to coping and service members' psychological health during reintegration. Existing literature (e.g., Hassija et al., 2012) has solely focused on service members. Second, I utilized data from multiple reporters (service members and their partners). Rather than relying on service members' perceptions, I included partners' own reports of how much they relied on each respective coping strategy. This helped reduce the likelihood that service members' perceptions of their partners were confounded with service members' self-reported psychological health. Third, by conducting a confirmatory factor analysis, I was able to ensure that the items in the EAC Scale

(Stanton et al., 2000a) adequately represented the latent constructs of emotion processing and emotion expression within a military sample.

Findings from the current study were in accordance with those of Hassija and colleagues' (2012) study. Service members' emotion expression was positively related to their well-being, and their avoidance was negatively related. The present study added to the existing literature by considering the relevance of partners' coping strategies.

Contrary to hypotheses, partners' emotion expression was negatively associated with service members' psychological health, at least when partners engaged in high levels of emotion expression *and* low levels of emotion processing. Partners' avoidance was negatively associated with service members' psychological health.

These significant associations provide empirical evidence for the notion of interdependence between service members and their intimate partners (Cox & Paley, 2003). Although much of the current research highlights how service members' psychological symptoms upon returning home impacts their partners' well-being (e.g., Renshaw, Rodrigues, & Jones, 2008), the current study provides empirical support for the idea that partners' coping strategies are related to service members' well-being during this transitional time.

These findings have potential implications for intervention/prevention programs focused on promoting the well-being of service members during reintegration. First, there may be value in simply normalizing the experience of having strong emotions that one may not know how to cope with upon returning home from deployment and transitioning back into civilian and home life. It may be beneficial for service members to hear from military leaders that the emotional constriction that was once adaptive for them during

deployment is not necessarily adaptive during reintegration. Thus, as service members are tasked with emotionally reconnecting with themselves and with their family members, they should actively transition away from emotional constriction and towards processing and expressing their emotions.

Second, these findings highlight the importance of including intimate partners in such programs. The coping strategies utilized by partners during reintegration also have an impact on service members' well-being. Previous research has indicated that partners question how open versus closed they should be regarding sharing their thoughts/emotions with service members during reintegration (Sahlstein et al., 2009). By including partners in such programs, we can better equip them with tools and strategies for thinking through all of the emotions they experience during this transitional time, which may influence how they communicate with their service members. Lastly, it may prove beneficial to discourage partners from avoiding their emotions during reintegration. Although partners may do so in order to protect service members from experiencing additional stress, their efforts may actually have adverse effects for service members' psychological health.

Lastly, this research is applicable to couples coping with separations and reunions outside of military deployment (e.g., incarceration, aftermath of illness). For example, research has indicated that a common task for couples coping with the reentry of a formerly incarcerated family member is learning how to reintegrate the family member as a "normative participant in everyday life activities" (Gideon, 2007, p. 218). Although incarceration and military-induced separations are different experiences, both require couples to confront similar issues upon reunion. This research therefore contributes to a

better understanding of couples coping with separations and reunions within a variety of contexts. In fact, some state that the challenges faced by military couples, such as extended periods of separation, may become a reality for many civilian couples as they navigate work-induced separations in a globally-interdependent world (Everson & Camp, 2011, p. 21).

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## APPENDICES

**Appendix A: Tables**

Table 1. Couple Data for the Current Study

	Time 1	Time 2
Service Member/Spouse Couples	74	75
Service Member/Significant Other Couples	8	7
Total	82	82

Table 2. Reliabilities and Distributional Characteristics

	$\alpha$	Skew	Skew/SE	Kurtosis	Kurtosis/SE
Service Members					
Emotion Processing T1	.91	.32	1.19	-.51	-.95
Emotion Expression T1	.90	.07	.25	-.87	-1.62
Avoidance T1	.81	-.08	-.26	-.55	-.90
Psychological Health T2	--	-.54	-1.98	-.47	-.89
Partners					
Emotion Processing T1	.87	-.15	-.54	-.77	-1.43
Emotion Expression T1	.93	-.36	-1.33	-1.03	-1.91
Avoidance T1	.81	.05	.16	-.42	-.73

Table 3. Correlations and Descriptive Statistics for All Study Variables

Variables	1	2	3	4	5	6	7	8	9
1. Service Member Avoidance T1	–								
2. Partner Avoidance T1	.33*	–							
3. Service Member Emotion Processing T1	-.30*	-.16	–						
4. Partner Emotion Processing T1	.04	-.21	.23*	–					
5. Service Member Emotion Expression T1	-.32*	-.04	.58**	.08	–				
6. Partner Emotion Expression T1	-.03	-.35**	.13	.66**	-.03	–			
7. Service Member Psychological Health T1	-.41**	-.36**	.25*	.04	.35**	-.13	–		
8. Service Member Psychological Health T2	-.26*	-.07	.41**	.04	.32**	-.01	.42**	–	
9. Partner Psychological Health T1	-.12	-.29*	.21	.34**	.18	.26*	.34**	.11	–
10. Service Member Pay Grade T1	-.17	.01	.23*	-.05	-.09	-.06	.23*	.20	.08
11. Service Member Age T1	.33**	.25*	-.13	-.01	-.01	-.04	-.09	-.18	-.02
12. Number of Children in Home T1	.03	-.07	-.37**	-.24	.04	-.02	.02	-.27*	-.16
13. Number of Months Elapsed between Return & T1	-.03	-.04	.12	.16	.13	.07	.08	-.05	.11

Table 3 continued

Variables	1	2	3	4	5	6	7	8	9
<i>M</i>	3.00	2.86	2.29	2.78	2.24	2.88	3.68	3.86	3.80
<i>SD</i>	.89	.91	.80	.84	.83	.94	1.07	1.02	1.02



Table 3 continued

Variables	10	11	12	13
10. Service Member Pay Grade T1	–			
11. Service Member Age T1	.12	–		
12. Number of Children in Home T1	-.12	.11	–	
13. Number of Months Elapsed between Return & T1	.04	-.07	-.06	–
<i>M</i>	–	34.65	1.67	7.78
<i>SD</i>	–	8.72	1.29	2.31

*Note.* T1 indicates that the variable was measured at Time 1, and T2 indicates that the variable was measured at Time 2; \*  $p < .05$ . \*\*  $p < .01$

Table 4. Summary of Hierarchical Regression Analysis for Hypotheses 1 – 3

Predictor	Model 1			Model 2		
	B	SE B	$\beta$	B	SE B	$\beta$
Service Member Pay Grade T1	.02	.08	.03	.02	.08	.03
Service Member Age T1	-.00	.02	-.01	.01	.02	.05
Number of Children in Home T1	-.13	.11	-.16	-.08	.11	-.10
Number of Months between Return & T1	-.05	.06	-.12	-.05	.06	-.11
Partner Psychological Health T1	.06	.13	.06	.03	.14	.03
Service Member Psychological Health T1	.44	.13	.50**	.37	.15	.42*
Service Member Emotion Processing T1				.27	.26	.20
Service Member Emotion Expression T1				.05	.24	.04
Service Member Avoidance T1				-.05	.18	-.05
$R^2$		.29			.33	
F for Change in $R^2$		2.94*			.85	

\*  $p < .05$ . \*\*  $p < .01$

Table 5. Summary of Hierarchical Regression Analysis for Hypothesis 4A

Predictor	Model 1			Model 2			Model 3		
	B	SE B	$\beta$	B	SE B	$\beta$	B	SE B	$\beta$
Service Member Pay Grade T1	.06	.08	.10	.04	.10	.08	.05	.10	.09
Service Member Age T1	-.01	.02	-.08	.01	.02	.04	.01	.02	.09
Number of Children in Home T1	-.20	.11	-.25	-.12	.13	-.15	-.09	.13	-.12
Number of Months Elapsed between Return & T1	-.02	.06	-.04	.01	.07	.02	.01	.07	.03
Partner Psychological Health T1	.00	.13	.00	-.13	.15	-.15	-.09	.16	-.10
Service Member Psychological Health T1	.42	.13	.50**	.37	.18	.45*	.34	.19	.41
Service Member Emotion Processing T1				.32	.30	.24	.32	.30	.24
Service Member Emotion Expression T1				-.06	.29	-.05	-.01	.29	-.01
Service Member Avoidance T1				-.15	.21	-.14	-.16	.21	-.15
Partner Emotion Processing T1				.12	.23	.11	.09	.24	.08
Partner Emotion Expression T1				.23	.22	.22	.23	.23	.23
Partner Avoidance T1				.04	.20	.04	.05	.20	.05
Service Member Avoidance X Partner Expression							-.19	.23	-.13
$R^2$		.35			.46			.47	
F for Change in $R^2$		3.17*			1.05			.64	

\*  $p < .05$ . \*\*  $p < .01$

Table 6. Summary of Hierarchical Regression Analysis for Hypothesis 4B

Predictor	Model 1			Model 2			Model 3		
	B	SE B	$\beta$	B	SE B	$\beta$	B	SE B	$\beta$
Service Member Pay Grade T1	.06	.08	.10	.04	.10	.08	.07	.10	.12
Service Member Age T1	-.01	.02	-.08	.01	.02	.04	-.00	.02	-.02
Number of Children in Home T1	-.20	.11	-.25	-.12	.13	-.15	-.09	.13	-.12
Number of Months Elapsed between Return & T1	-.02	.06	-.04	.01	.07	.02	-.00	.07	-.00
Partner Psychological Health T1	.00	.13	.00	-.13	.15	-.15	-.11	.15	-.13
Service Member Psychological Health T1	.42	.13	.50**	.37	.18	.45*	.34	.18	.41
Service Member Emotion Processing T1				.32	.30	.24	.26	.31	.20
Service Member Emotion Expression T1				-.06	.29	-.05	.05	.32	.04
Service Member Avoidance T1				-.15	.21	-.14	-.12	.21	-.12
Partner Emotion Processing T1				.12	.23	.11	.11	.24	.10
Partner Emotion Expression T1				.23	.22	.22	.24	.23	.24
Partner Avoidance T1				.04	.20	.04	.03	.20	.03
Service Member Expression X Partner Expression							.18	.21	.14
$R^2$		.35			.46			.47	
F for Change in $R^2$		3.17*			1.05			.70	

\*  $p < .05$ . \*\*  $p < .01$

Table 7. Summary of Time 1 Hierarchical Regression Analysis for Hypotheses 1 – 3

Predictor	Model 1			Model 2		
	B	SE B	$\beta$	B	SE B	$\beta$
Service Member Pay Grade T1	.13	.09	.19	.10	.08	.15
Service Member Age T1	-.03	.02	-.18	-.01	.02	-.04
Number of Children in Home T1	.22	.12	.25	.19	.11	.21
Number of Months between Return & T1	.02	.07	.04	-.02	.06	-.04
Partner Psychological Health T1	.37	.14	.36*	.34	.13	.33*
Service Member Emotion Processing T1				-.23	.26	-.15
Service Member Emotion Expression T1				.54	.23	.39*
Service Member Avoidance T1				-.38	.18	-.30*
$R^2$		.23			.45	
F for Change in $R^2$		2.71*			5.44**	

\*  $p < .05$ . \*\*  $p < .01$

Table 8. Summary of Time 1 Hierarchical Regression Analysis for Hypothesis 4A

Predictor	Model 1			Model 2			Model 3		
	B	SE B	$\beta$	B	SE B	$\beta$	B	SE B	$\beta$
Service Member Pay Grade T1	.11	.10	.16	.09	.09	.14	.10	.09	.15
Service Member Age T1	-.03	.02	-.20	-.01	.02	-.09	-.00	.02	-.03
Number of Children in Home T1	.14	.14	.15	.07	.13	.07	.10	.13	.10
Number of Months Elapsed between Return & T1	.02	.08	.05	-.05	.07	-.10	-.04	.07	-.08
Partner Psychological Health T1	.34	.16	.33*	.26	.14	.26	.31	.14	.30*
Service Member Emotion Processing T1				-.42	.27	-.27	-.38	.27	-.25
Service Member Emotion Expression T1				.60	.26	.42*	.64	.26	.45*
Service Member Avoidance T1				-.44	.19	-.34*	-.44	.19	-.34*
Partner Emotion Processing T1				.49	.21	.37*	.41	.22	.31
Partner Emotion Expression T1				-.53	.20	-.43*	-.50	.20	-.41*
Partner Avoidance T1				-.32	.18	-.25	-.30	.18	-.23
Service Member Avoidance X Partner Expression							-.26	.22	-.16
$R^2$		.20			.62			.64	
F for Change in $R^2$		1.92			5.82**			1.44	

\*  $p < .05$ . \*\*  $p < .01$

Table 9. Summary of Time 1 Hierarchical Regression Analysis for Hypothesis 4B

Predictor	Model 1			Model 2			Model 3		
	B	SE B	$\beta$	B	SE B	$\beta$	B	SE B	$\beta$
Service Member Pay Grade T1	.11	.10	.16	.09	.09	.14	.12	.10	.17
Service Member Age T1	-.03	.02	-.20	-.01	.02	-.09	-.02	.02	-.15
Number of Children in Home T1	.14	.14	.15	.07	.13	.07	.09	.13	.10
Number of Months Elapsed between Return & T1	.02	.08	.05	-.05	.07	-.10	-.06	.07	-.11
Partner Psychological Health T1	.34	.16	.33*	.26	.14	.26	.27	.14	.27
Service Member Emotion Processing T1				-.42	.27	-.27	-.47	.27	-.30
Service Member Emotion Expression T1				.60	.26	.42*	.72	.28	.50*
Service Member Avoidance T1				-.44	.19	-.34*	-.38	.20	-.30
Partner Emotion Processing T1				.49	.21	.37*	.45	.21	.34*
Partner Emotion Expression T1				-.53	.20	-.43*	-.49	.20	-.40*
Partner Avoidance T1				-.32	.18	-.25	-.33	.18	-.25
Service Member Expression X Partner Expression							.21	.20	.14
$R^2$		.20			.62			.63	
F for Change in $R^2$		1.92			5.82**			1.07	

\*  $p < .05$ . \*\*  $p < .01$

Table 10. Indicators of Latent Variables: Correlations and Descriptive Statistics

Variable	1	2	3	4	5	6	7	8
1. Figure out feelings	–	.85**	.65**	.55**	.43**	.45**	.38**	.37**
2. Delve into feelings	.78**	–	.60**	.50**	.45**	.41**	.35**	.33**
3. Realize feelings valid	.69**	.69**	–	.66**	.61**	.66**	.55**	.50**
4. Acknowledge emotions	.66**	.69**	.75**	–	.68**	.66**	.65**	.71**
5. Let feelings out freely	.40**	.45**	.56**	.67**	–	.82**	.74**	.70**
6. Take time to express	.30**	.41**	.49**	.62**	.69**	–	.86**	.79**
7. Allow oneself to express	.37**	.45**	.52**	.56**	.82**	.70**	–	.78**
8. Feel free to express	.23*	.28*	.48**	.44**	.69**	.51**	.79**	–

Note. Correlations above the diagonal are for partners, and below the diagonal are for service members; \*  $p < .05$ . \*\*  $p < .01$



Table 10 continued

Variables	1	2	3	4	5	6	7	8
<i>Service Members (N = 79)</i>								
<i>M</i>	2.38	2.05	2.34	2.38	2.27	2.11	2.24	2.34
<i>SD</i>	.85	.92	.96	.88	1.05	.88	.94	.89
Range	1 – 4	1 – 4	1 – 4	1 – 4	1 – 4	1 – 4	1 – 4	1 – 4
<i>Partners (N = 79)</i>								
<i>M</i>	2.67	2.45	2.92	3.03	2.82	2.86	2.92	2.94
<i>SD</i>	.98	.99	1.02	.97	1.05	1.03	1.02	1.02
Range	1 – 4	1 – 4	1 – 4	1 – 4	1 – 4	1 – 4	1 – 4	1 – 4

Table 11. Fit Indicators for Service Member and Partner Models

Model	$\chi^2$	<i>df</i>	<i>p</i>	CFI	TLI	RMSEA
<i>Service Members (N = 82)</i>						
Emotion Expression						
Single Factor	6.73	2	.04*	.98	.89	.17
With Correlated Error	2.19	1	.14	1.00	.95	.05
Emotion Processing						
Single Factor	8.22	2	.02*	.97	.84	.20
With Correlated Error	.19	1	.66	1.00	1.04	.00
Combined Models						
One Factor Model	166.25	20	.00**	.70	.58	.30
Two Factor Model	32.15	17	.01*	.97	.93	.11
<i>Partners (N = 82)</i>						
Emotion Expression						
Single Factor	2.04	2	.36	1.00	1.00	.02
With Correlated Error	.17	1	.69	1.00	1.03	.00
Emotion Processing						
Single Factor	16.33	2	.00**	.92	.59	.30
With Correlated Error	.09	1	.78	1.00	1.05	.00
Combined Models						
One Factor Model	138.23	20	.00**	.77	.59	.27
Two Factor Model	37.81	17	.00**	.96	.91	.12

\*  $p < .05$ . \*\*  $p < .01$

Table 12. Loadings and Standard Errors for 2-Factor Confirmatory Model

Item	Process Emotions				Express Emotions			
	Service Members		Partners		Service Members		Partners	
	Unstand- ardized	Stand- ardized	Unstand- ardized	Stand- ardized	Unstand- ardized	Stand- ardized	Unstand- ardized	Stand- ardized
Figure out feelings	1.00 (---)	.74	1.00 (---)	.68				
Delve into feelings	1.13 (.12)	.77	.92 (.10)	.63				
Realize feelings valid	1.31 (.18)	.86	1.27 (.20)	.84				
Acknowledge emotions	1.23 (.16)	.90	1.19 (.19)	.83				
Let feelings out freely					1.00 (---)	.92	1.00 (---)	.85
Take time to express					.70 (.08)	.77	1.10 (.09)	.96
Allow to express					.86 (.08)	.89	1.01 (.10)	.89
Feel free to express					.66 (.09)	.72	.99 (.10)	.83

Note. Factor loadings are significant,  $p < .001$ . Express and process are correlated at .72 for service members and .81 for partners.

Table 13. Means (Standard Errors) of Service Members' Psychological Health

		Partners' Emotion Expression	
		High	Low
Partners' Emotion Processing			
High		3.90 (.19)	3.67 (.42)
		<i>N</i> = 30	<i>N</i> = 6
Low		2.92 (.29)	3.75 (.20)
		<i>N</i> = 14	<i>N</i> = 28

*Note.* Partners were classified as exhibiting “low” levels of a coping strategy if their Time 1 mean score was less than 3 on the 4-point scale; partners were classified as exhibiting “high” levels of a coping strategy if their Time 1 mean score was greater than or equal to 3 on the 4-point scale.

## Appendix B: Figures

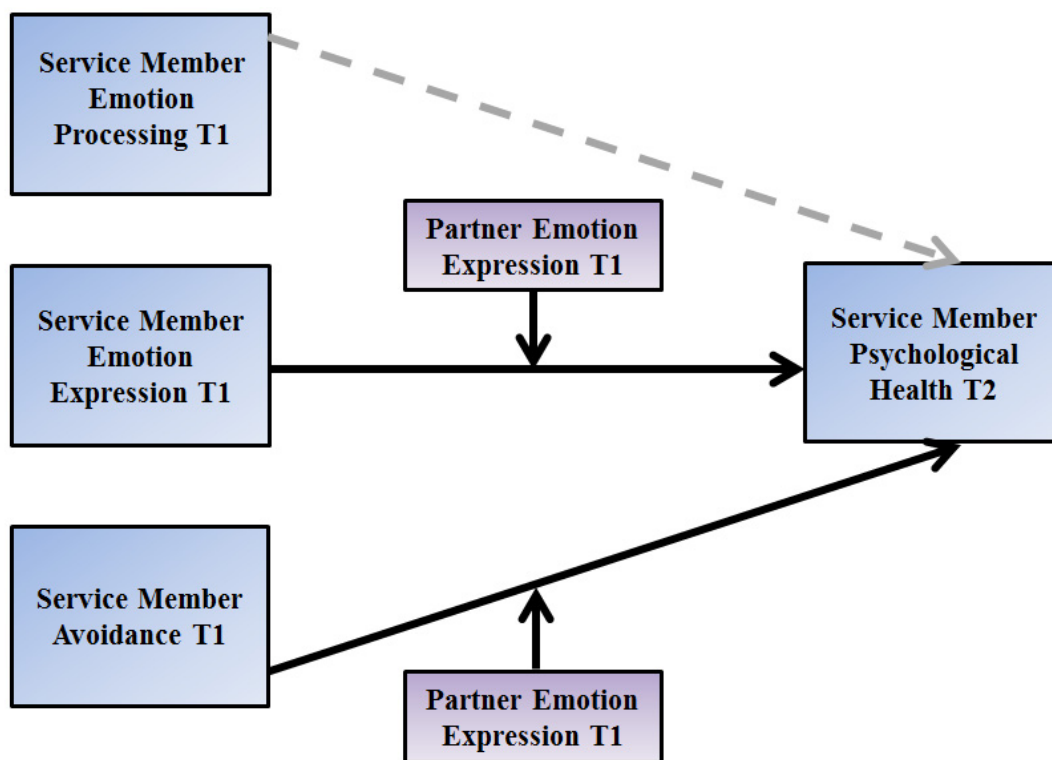


Figure 1. Hypothesized Model

*Note.* Blue boxes indicate service-member-reported data, and purple boxes indicate partner-reported data; gray dashed arrow indicates a hypothesized, significant bivariate correlation, and solid black arrows indicate hypothesized, significant beta coefficients; all predictors were measured at Time 1, and the dependent variable was measured at Time 2.

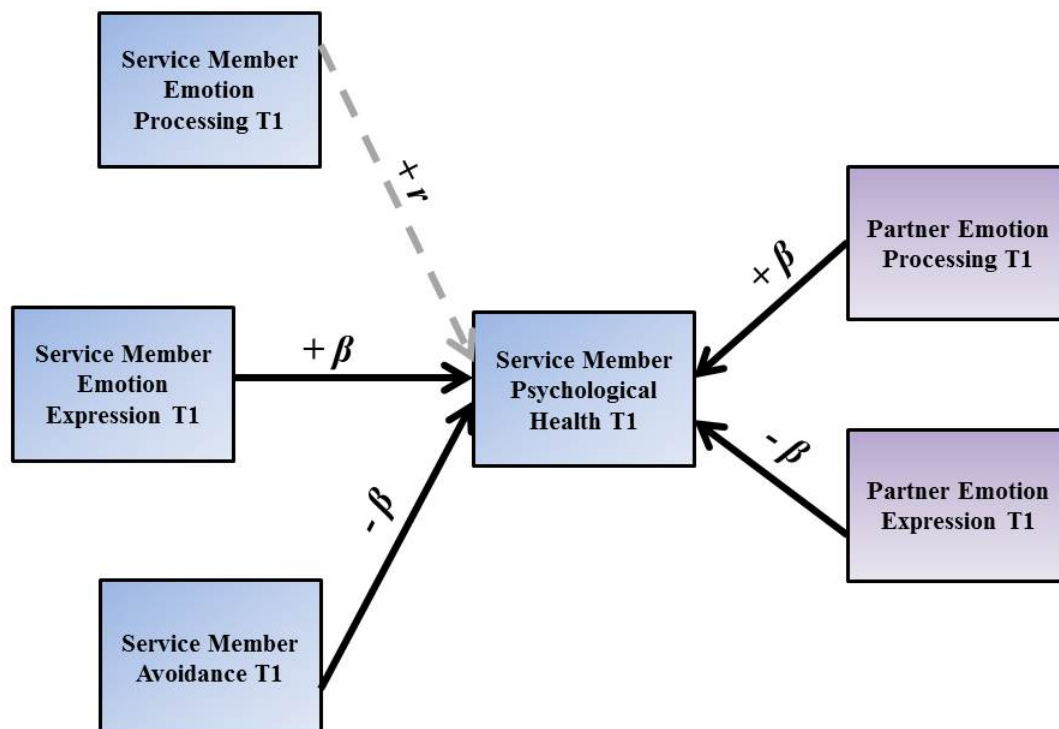


Figure 2. Exploratory Regression Results

*Note.* Blue boxes indicate service-member-reported data, and purple boxes indicate partner-reported data; gray dashed arrow indicates a significant bivariate correlation, and solid black arrows indicate significant beta coefficients; all variables were measured at Time 1.

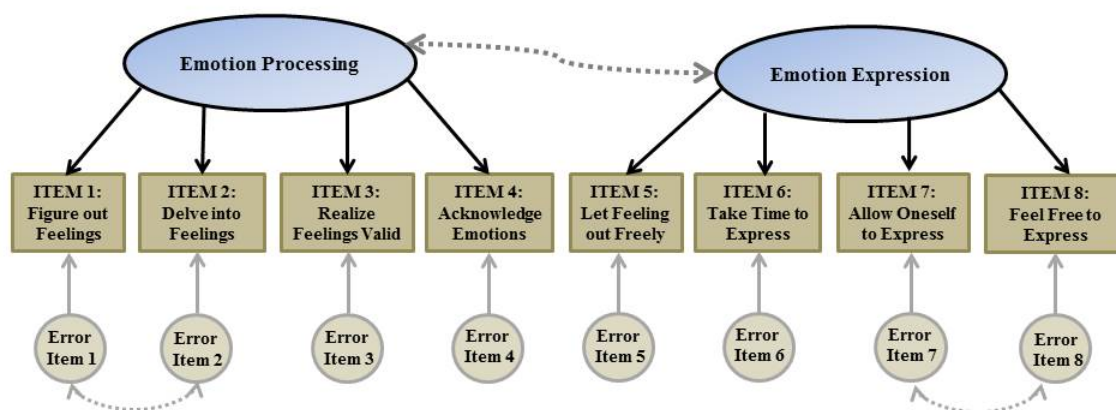


Figure 3. Conceptual Two-Factor Model

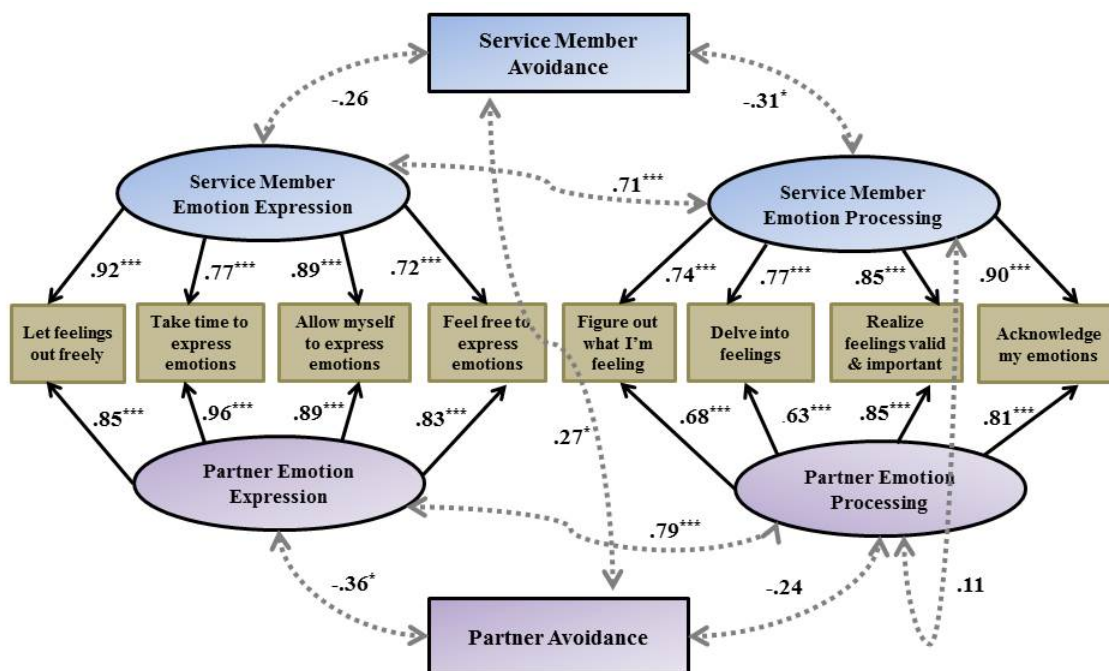


Figure 4. Full Measurement Model

*Note.* Model sample size was 82 couples; blue indicates service-member-reported data, and purple indicates partner-reported data; rectangles indicate observed variables, and ovals indicate latent variables; gray dashed arrows indicate bivariate correlations, and solid black arrows indicate standardized factor loadings; all variables were measured at Time 1; \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ;  $\chi^2(125) = 179.82$ ,  $p = .00$ ; CFI = .95; TLI = .93; RMSEA = .07.



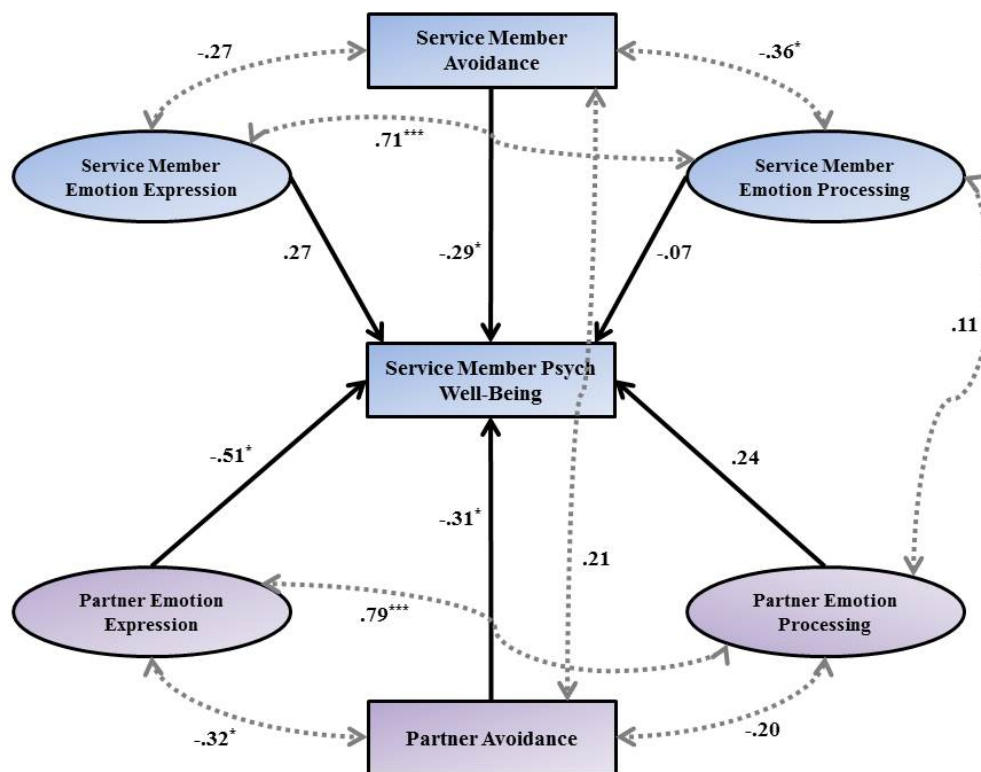


Figure 5. Predictors of Service Members' Time 1 Psychological Health

*Note.* Model sample size was 82 couples; blue indicates service-member-reported data, and purple indicates partner-reported data; rectangles indicate observed variables, and ovals indicate latent variables; gray dashed arrows indicate bivariate correlations, and solid black arrows indicate standardized regression estimates; analysis controlled for partners' self-reported psychological health; all variables were measured at Time 1; \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ;  $\chi^2(152) = 224.31, p = .00$ ; CFI = .93; TLI = .91; RMSEA = .08.

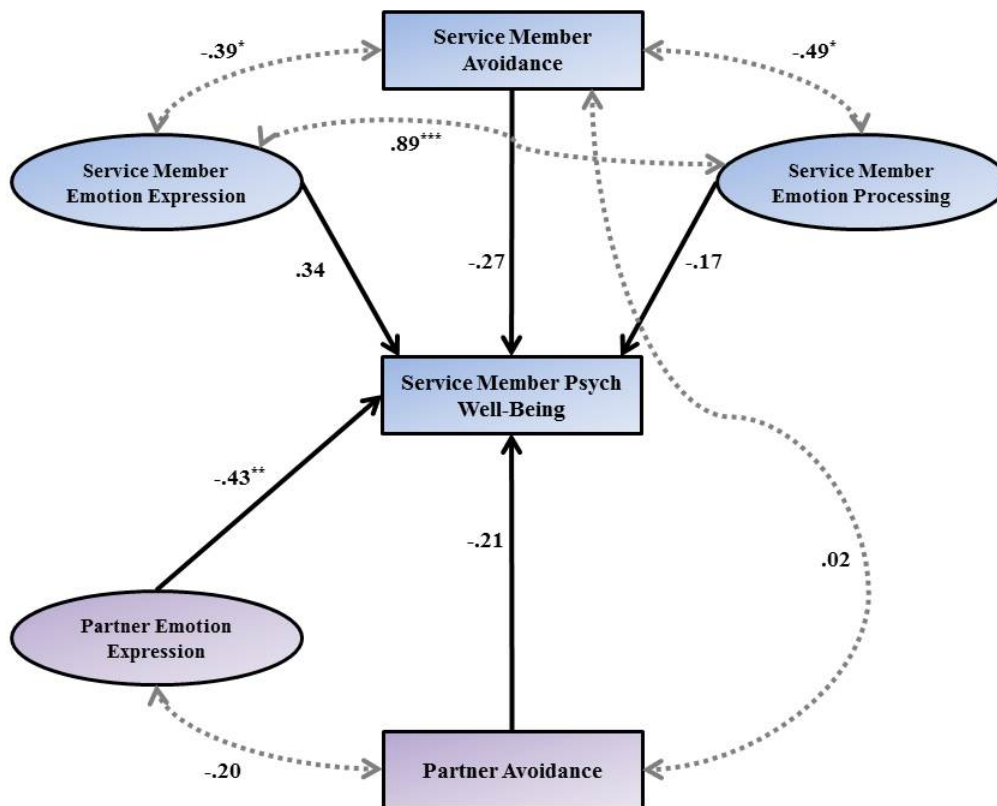


Figure 6. Partners Low on Emotion Processing

*Note.* Model sample size was 42 couples; blue indicates service-member-reported data, and purple indicates partner-reported data; rectangles indicate observed variables, and ovals indicate latent variables; gray dashed arrows indicate bivariate correlations, and solid black arrows indicate standardized regression estimates; analysis controlled for partners' self-reported psychological health; all variables were measured at Time 1; \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ;  $\chi^2(89) = 109.47, p = .07$ ; CFI = .95; TLI = .92; RMSEA = .08.

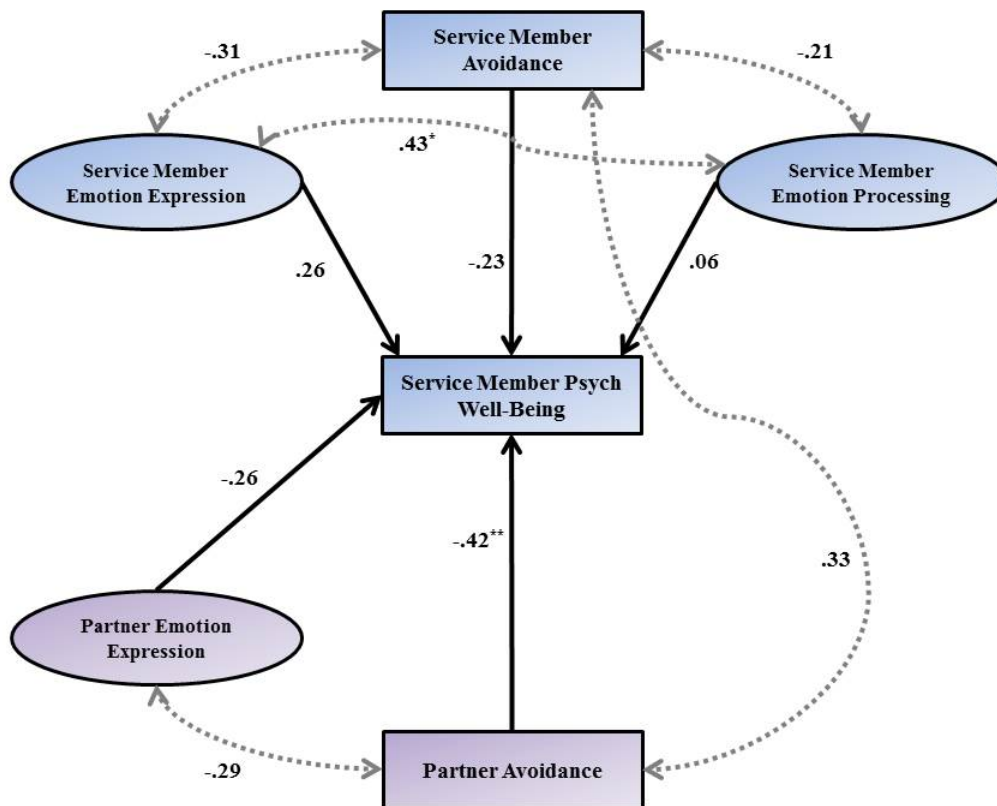


Figure 7. Partners High on Emotion Processing

*Note.* Model sample size was 36 couples; blue indicates service-member-reported data, and purple indicates partner-reported data; rectangles indicate observed variables, and ovals indicate latent variables; gray dashed arrows indicate bivariate correlations, and solid black arrows indicate standardized regression estimates; analysis controlled for partners' self-reported psychological health; all variables were measured at Time 1; \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ ;  $\chi^2(89) = 128.15, p = .00$ ; CFI = .91; TLI = .87; RMSEA = .11.