

**A LONGITUDINAL EXAMINATION OF COUPLE COMMUNICATION AND ROLE  
NEGOTIATIONS FOLLOWING A MILITARY DEPLOYMENT**

by

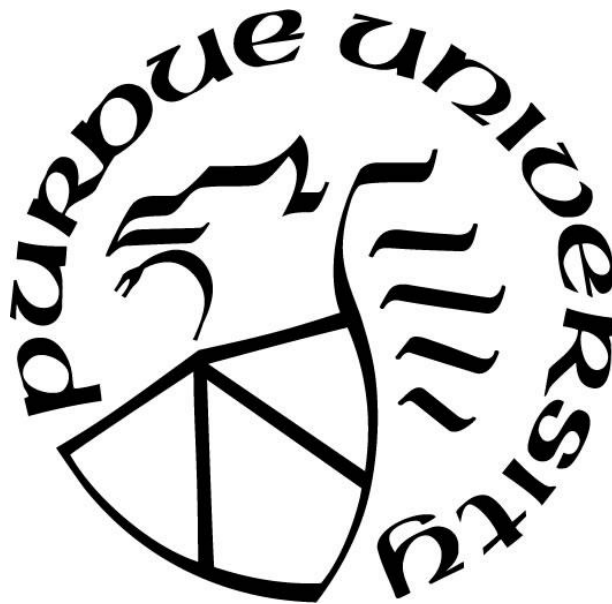
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## ABSTRACT

Across deployment cycles, individuals negotiate family roles to accommodate the absence then re-entry of service members. There is scant empirical evidence about the *processes* through which roles are reorganized. Guided by the family resilience framework (Walsh, 2016b) and the model of military marriage (Karney & Crown, 2007), I hypothesized that communication would be a mechanism through which couples negotiated roles during reintegration. Couple communication was conceptualized as occurring over two distinct but related temporal rhythms: established communication patterns and daily communication strategies. I expected that couples' Time 1 (T1) established patterns (problem solving and withdrawal) would predict role negotiations at Time 3 (T3), and that these associations would be mediated by daily communication strategies at Time 2 (T2). 54 heterosexual National Guard couples were interviewed at three times across eight months after service members' return from deployment. T1 and T3 were in-person interviews and measured participants' established patterns of family life, including established communication patterns and ease in role negotiations. T2 was a four-day data "burst" and captured couples' daily behaviors such as competence with daily communication strategies. Path analyses indicated that T1 problem solving (an established pattern) predicted service members' more competent T2 daily communication and easier T3 role negotiations. While no indirect associations emerged for either partner, significant others' T2 more competent daily communication strategies predicted easier T3 role negotiations for both partners. Results suggest that problem solving and competent daily communication strategies contribute to resilient family functioning during reintegration. This study highlights the viability and importance of adopting multiple temporal rhythms to examine processes across couple transitions.



## INTRODUCTION

Military deployments can disrupt how couples fulfil their familial roles and responsibilities. Before, during, and after deployments, relationship partners may relinquish, transfer, or acquire family roles and responsibilities to accommodate such transitions (Bowling & Sherman, 2008). Research has indicated that this role reorganization can lead to conflict in the months following deployment (Gambardella, 2008). Much of what we know about role-related challenges, however, is drawn from conceptual essays and small, cross-sectional qualitative studies. While these studies have highlighted the complexities of role negotiations during reintegration, a question remains regarding the process through which couples negotiate household roles. To date, few studies have quantitatively examined the reorganization and negotiation of household role responsibilities across a window of reintegration. This gap is addressed in the present study by utilizing longitudinal data from romantic partners to examine communication as a mechanism through which roles are negotiated.

Deployments can also disrupt how romantic partners in couples communicate with each other. Effective and appropriate communication strategies such as listening, emotion expression, and problem-solving might be altered during a deployment cycle. For example, deployment-related stress might change the content of and the manner in which couples communicate with each other (e.g., more arguments; Knobloch, Ebata, McGlaughlin, & Theiss, 2013; Rossetto, 2013). Additionally, communication between partners might vary depending on the unique challenges associated with separate stages of the deployment cycle. For example, communication during deployment can be a process through which partners maintain connection and involvement (Merolla, 2010). During reintegration, communication might be a mechanism through which partners reconnect and reestablish intimacy (Knobloch, Basinger, Wehrman, Ebata, & McGlaughlin, 2016), or process reverberations of trauma (Monk & Nelson Goff, 2014). Because communication between partners plays such a central role in multiple aspects of couple dynamics across deployment, it is important to understand the impacts of specific communication strategies on relationship functioning, specifically role negotiations. Despite a growing body of research detailing individual and dyadic changes across deployment cycles (e.g., Knobloch & Wilson, 2015; MacDermid Wadsworth, 2010), few studies have assessed the influence of communication

strategies on role negotiations during reintegration. As such, I addressed this gap by examining associations between couple communication and role negotiations across time.

The notion of temporal rhythms can be beneficial when examining how couples function across time. Within this notion, time is conceptualized as hierarchical, where short term, micro-level rhythms are nestled within longer, more enduring rhythms. Here, rhythms refer to a temporal “level” in which certain behaviors, interactions, or patterns occurs (Fraenkel, 1994). Rhythms of family life occur at different tempos or time scales; that is, some rhythms are more rapid (e.g., moment-to-moment interactions) while others are move slower (e.g., major transitions in family life). Rhythms occurring at more rapid scales tend to fluctuate more frequently, whereas slower, more established rhythms may be more robust to perturbations of stress and transitions (Hollenstein, Lichtwarck-Aschoff, & Potworowski, 2013). These rhythms do not occur in isolation from each other: events occurring at more rapid rhythms can affect change in slower-moving patterns, which can then shape subsequent behavior at faster rhythms (Granic, 2005). Conversely, couples’ established, slow-moving rhythms might be more immune to stress and might not change as a result of experiences occurring at faster rhythms. While rhythms of family life can be conceptualized from nanoseconds to historical eras, the present study examines two rhythms potentially impacted by deployments: daily communication strategies, a faster rhythm, and established communication patterns, a slower rhythm.

Longitudinal examinations of military families have often captured couples’ established patterns such as global, general tendencies of communication, with some exceptions (e.g., Knobloch-Fedders, Caska-Wallace, Smith, & Renshaw, 2017). Measures tapping into established patterns assume stability in couple interactions and thus might unable to capture changes in couple dynamics. Relying solely upon reports of established patterns could obscure dynamics occurring at faster rhythms, such as daily behaviors (Marini, Collins, & MacDermid Wadsworth, 2018). While researchers have begun to study daily experiences of military couples during a military deployment (e.g., Carter, Giff, Campbell, & Renshaw, 2019), less is known about how multiple temporal rhythms intersect during reintegration. The current study contributes to this gap by examining the interplay between communication behaviors occurring at two related yet distinct temporal rhythms.

The current study addressed these gaps by empirically testing associations between both partners’ reports of their established communication patterns, daily communication strategies, and

household role negotiations following a deployment. Several family theories were utilized to describe how couples exist as systems (Cox & Paley, 1997) and function across time (Elder, 1985). In particular, the family resilience (Walsh, 2016b) and model of military marriage (Karney & Crown, 2007) frameworks theorized that communication might be one process through which couples can maintain functioning despite a recent deployment. Lastly, and perhaps the largest contribution of this study, I relied on the notion of multiple temporal rhythms to capture associations in different communication behaviors on subsequent role negotiations across eight months of reintegration.

### **Theoretical Frameworks**

Several themes are woven throughout the theories that undergird the present study's model. Each theory recognizes families as systems in which members are interdependent and exert mutual influences on each other (Cox & Paley, 1997; Elder, 1985). Because of this, families are viewed as a composite "whole" with unique properties that may supersede individuals who are the "parts." As such, these theories argue for the incorporation of all system components (e.g., both members of a dyad). In addition, these theories highlight that families are dynamic and describe how families might maintain stability or change across time. In particular, these theories describe patterns of interactions and processes that couples can employ or rely upon during periods of upheaval or uncertainty to maintain their functioning. While there are many similarities between these theories, each provides certain tenets that are particularly useful for the present study.

#### **Families across time**

Families continually respond, adjust, and adapt to transitions across the life course (e.g., in relationships as they develop) and contexts (e.g. military deployment; Elder, 1998; Masten & O'Dougherty Wright, 2010). Within life course theory, individuals occupy unique constellations of roles pertaining to their positions within the family (e.g., mother), workplace (e.g., employee), community (e.g., activist), or larger society (Elder, 1985). As individuals encounter new contexts or experiences, they might experience role transitions or qualitative shifts in role identities (e.g., becoming a parent) whereby individuals acquire, relinquish, or alter roles (Cowan & Cowan, 2012). These role experiences and transitions across the life course are collectively referred to as

life course trajectories. Because life course theory posits that family members' lives are inextricably linked, each members' trajectories are interdependent (Elder, 1998). The timing and type of transitions within one trajectory (e.g., one member) can influence the trajectories of other members (Gilligan, Karraker, & Jasper, 2018).

While this theory sets the stage for individuals' roles and related transitions across specific life events, the main contribution of this theory pertains to the notion of time, in which there are different dimensions of time ranging from individual time to historical time (Elder, 1994). Individual and family transitions are situated within historical and social contexts which can have reciprocal influences on how the other develops (Alwin, 2012). As individuals' life course trajectories are impacted by family members' transitions, different dimensions of time also affect the shared relationships in each family's life course (Elder, 1985). Said another way, individuals' life course trajectories are nested within trajectories of family life, which are again nested within historical and social contexts, creating a hierarchy of time (Elder, 1998). This hierarchy of time can be capitalized to examine different temporal rhythms of families.

### **Temporal rhythms of families**

Rhythms can occur at different "levels" of time, with some moving faster (e.g., physiological responses at nanoseconds) or slower (e.g., historical eras). Broadly, a temporal rhythm is defined as a recursive pattern of interaction that is situated within the context of time (e.g., days, months, years; Almeida, 2005; Fraenkel, 1994). Rhythms are nested within each other, wherein phenomena occurring at faster rhythms are nested within slower moving rhythms (Granic, 2005). While rhythms can be measured at any level, for the present study, I am examining two specific rhythms: couples' established patterns and daily strategies. Established patterns are conceptualized as the enduring, global properties of relationships whereas daily strategies are the fluctuations that occur during everyday family life (Marini et al., 2018). Established patterns are the broad, stable patterns occurring between members. Established patterns occur at slower rhythms and encompass how couples, in general, interact with each other. These established patterns might describe how individuals tend to act in similar ways with their romantic partners across time and different contexts. Said another way, established patterns relate to how partners—in general and on average—interact with each other.

In contrast, daily strategies are behaviors occurring at a faster rhythm than established patterns. At this rhythm, interactions between partners might be more fluid and variable due to events occurring on certain days. This rhythm encompasses short-term fluctuations around couples' established patterns and might encompass different techniques or strategies for the couple. For example, if a couple generally exhibits little conflict (i.e., an established pattern), their daily experiences might be more brittle as tensions arise over the course of one or multiple days. While these two rhythms offer unique contributions, these rhythms do not occur in isolation of each other: events occurring at different rhythms can impact experiences at other levels. Family systems theory is well-poised to explain such interplay between temporal rhythms.

### **Families as systems**

Within family systems theory, *feedback loops* are circular patterns of interaction whereby individuals' behaviors both influence and are influenced by behaviors of others within the same system (Cox & Paley, 1997). Because systems components are interdependent, when one member acts in a certain way (output of Partner A), the other components of a system interpret that output (input for Partner B) which then responds according (output of Partner B), and so on. The demand/withdraw pattern of marital relationships is an example of a feedback loop wherein one partner withdraws in response to the other's demands, and this withdrawal elicits further demands from the first partner (Caughlin, 2002).

Feedback loops are important mechanisms for maintaining homeostasis and creating subsequent patterns as families adjust to disruptions (Minuchin, 1985). Homeostasis, or the maintenance of equilibrium despite changes within family systems, is accomplished through two types of feedback loops: positive and negative (MacDermid Wadsworth & Hibel, 2013). Negative feedback loops maintain system homeostasis where emergent behaviors are reverted back into older, established patterns (MacDermid Wadsworth & Hibel, 2013). For example, negative feedback loops may occur when at-home partners resist adjusting household responsibilities when service members deploy. In this example, deployment does not disrupt couples' established role organizations. In contrast, positive feedback loops are those that amplify deviations from a systems' maintenance and could lead to a new pattern emerging altogether (Granic, 2005). Returning to the previous example, at-home partners might instead reorganize and change routines and expectations, thus disrupting systems' prior structure and creating a new one.

Like the “parts” of a whole system, temporal rhythms can be conceptualized as nested systems in which the notion of feedback loops can be applied. Within a rhythm (a “part” of the system), events occurring at an earlier time might constrain or promote future behavior. For example, at faster rhythms, individuals might use daily behaviors to solve disagreements or reconnect with their partner. How their partner responds on one day might influence how that individual communicates the following day or in a different situation. Between rhythms, interactions occurring at faster rhythms might develop patterns at slower rhythms, which might subsequently mold experiences at faster rhythms (Hollenstein et al., 2013). When couples experience conflict engagement at faster rhythms, it is possible that, over time, they begin to expect this conflict and generally respond with conflictual behavior. This general tendency for conflict at slower rhythms could constrain how couples interact at faster rhythms, such that those couples might engage in worse problem solving behaviors. Through these bidirectional associations occurring within and between rhythms, temporal rhythms are inextricably linked with development at one level igniting or constraining development at another level. It is this cross-rhythm “communication” that elicits the need for research designs and analyses to unpack complex associations within and between individuals across multiple temporal rhythms and throughout transitions. The family resilience framework is well-poised to address processes that might hinder or promote adjustment during transitions.

### **Family resilience framework**

Similar to family systems theory, family resilience frameworks posit that adversities impact the family as a whole, and as a result, families continually adapt, adjust, and negotiate their interactions in order to maintain functioning (Walsh, 2016a). Resilience is often distinguished as a process or an outcome. For example, early definitions focused on resilience as a positive outcome despite significant adversity, such as risk factors for individuals to develop poor mental health outcomes following adverse childhood experiences (Masten, 2014). More recent definitions of resilience have described the specific processes contributing to positive adaptation (Masten, 2014). There is little consensus, however, regarding terminology, conceptualizations, and measurement of resilience and resiliency (Henry, Sheffield Morris, & Harrist, 2015). In fact, in a recent review of 20 studies concerning family resilience within a military context, Cramm and colleagues (2018) found no convergence between resilience and resiliency, processes or outcome, or individual- or

family-level traits. To address this lack of consensus in terminology, family resilience in the present study will be conceptualized as adaptive or relational processes that “protect families against the potential detrimental effects of significant risk” (Henry et al., 2015, p. 29).

Walsh’s family resilience framework emphasizes relational processes and is useful for examining specific mechanisms of resilience between interconnected individuals. Derived from years of research and clinical work, this framework adopts a strength-based approach to describe key family processes that foster resilience across family life courses (Walsh, 2012). Within this framework, family processes, in particular belief systems (e.g., meaning making), organization (e.g., flexibility), and couple processes (e.g., communication) can mediate associations between adversity and later functioning (Walsh, 2016a). The present study focuses on the role played by couple processes, in particular communication processes.

Communication encompasses the content, delivery, intention, and motivation behind both verbal and nonverbal interactions (Olson, 2000). Effective communication processes can be broadly defined as an ability to deliver effective and appropriate communication within specific contexts (Spitzberg, 1983). More specifically, drawing from the family resilience framework and previous work on couple communication, the present study defines effective communication as clear and productive strategies that foster dyadic collaboration (e.g., problem solving) and are sensitive to each other’s contributions (Walsh, 2016b).

Clear and effective communication, problem solving, and negotiations are vital for family functioning and family resilience (Olson, Russell, & Sprenkle, 2004; Spitzberg, 1983; Walsh, 2016b). Communication processes are theorized to buffer effects of stress (Afifi et al., 2016), mediate relationships between adversity and adverse outcomes (Walsh, 2016a), and facilitate adaptation following a crisis (Patterson, 2002). Clear and consistent communication can elucidate expectations and avoid unnecessary ambiguity or stress (Walsh, 2016b). Open communication provides an avenue for strong emotional content to be shared, validated, and worked through (Walsh, 2016b). Collaborative communication is fundamental to conflict management, problem solving, and negotiations. Conversely, withdrawal from conversations or avoidance of specific topics might impede healthy family functioning (Walsh, 2012). Communication is also instrumental to how couples interact with each other and can have impacts on relationship duration and functioning. Effective communication is a key variable for relationship education initiatives (Barton et al., 2017) and its quality can predict marital trajectories across time (Proulx et al., 2017).

Taken together, effective, high quality communication is especially salient for relationship outcomes. Effective communication is further elucidated as a central component of marriages in a military context.

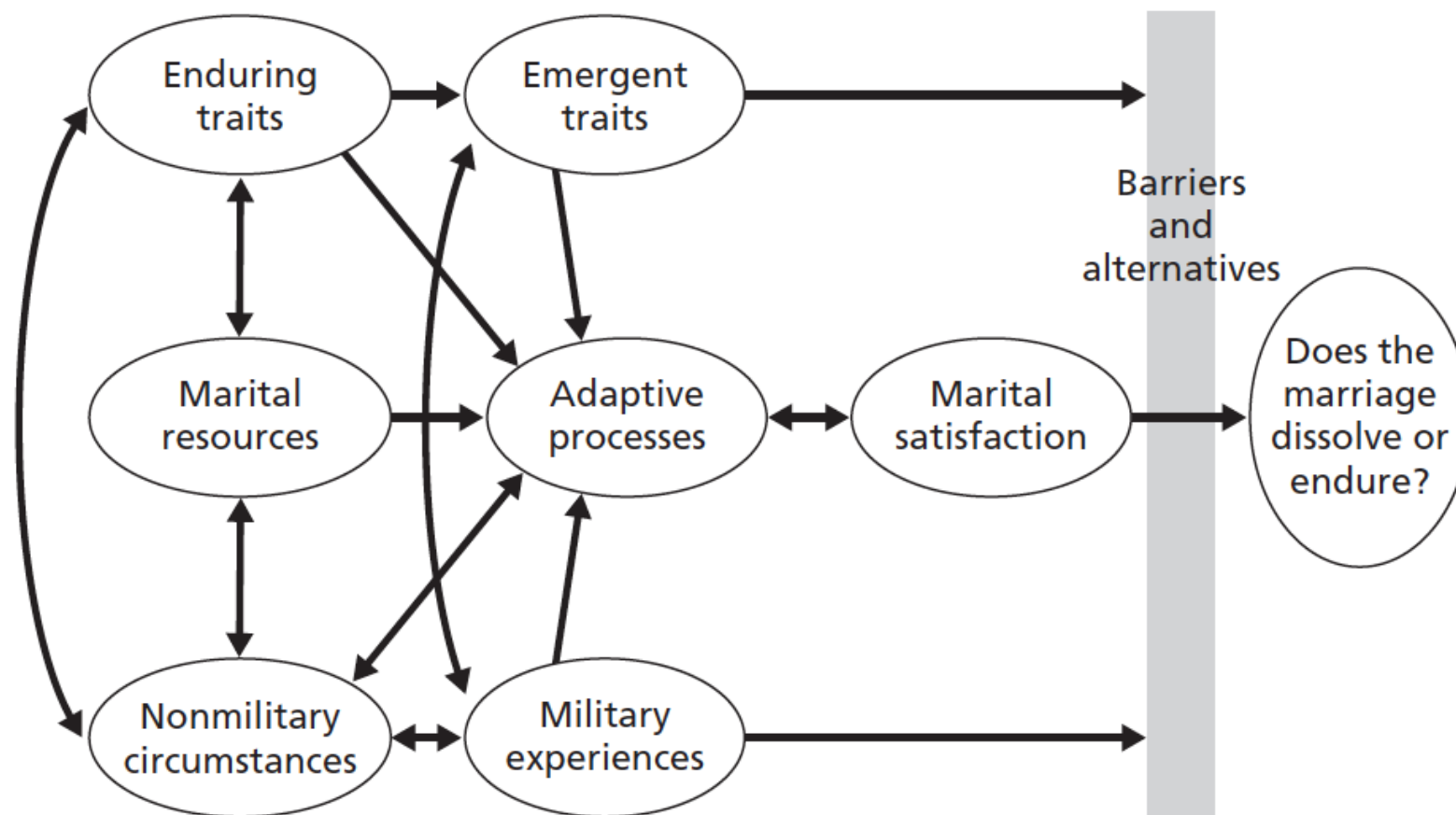
### **Model of military marriage**

The model of military marriage framework, reprinted from Karney & Crown (2007, pg. xxvi) in Figure 1, addresses marital outcomes by acknowledging influences of individuals' behaviors, couple resources, and both military and non-military experiences (Karney & Crown, 2007). The model of military marriage framework was born out of the vulnerability-stress-adaptation (VSA) model of marriage, which was derived from a review of over 100 longitudinal studies of civilian (i.e., non-military) couples, and synthesized contributions of influential theories (e.g., social exchange) regarding marital quality and stability (Karney & Bradbury, 1995; Karney & Crown, 2007).

The model of military marriage posits that individual and dyadic processes are not stable and that military experiences can contribute to variability in the lives of military couples. Within this model, couples' characteristics are conceptualized at two rhythms: enduring traits and emergent traits. *Enduring traits* are the stable attributes each spouse brings to their relationship (e.g., personality, expectations), whereby *emergent traits* are those that might emerge as a result of military contexts. This framework theorizes that couples with a greater number of marital resources respond better to stress and disruptions. *Marital resources*, similar to established patterns at slower rhythms, are the stable characteristics of relationships that influence interactions during stress, such as the number of children in the household or relationship length. In addition, couples' adaptive processes are hypothesized to be important for maintaining relationships during stress and disruptions. *Adaptive processes*, similar to daily strategies at faster rhythms, encompass the myriad of ways in which couples interact, including problem solving, communication, and support provision.



## An Integrative Framework to Account for Success and Failure in Military Marriages



*Figure 1.* Conceptual framework reprinted from Karney & Crown (2007, pg. xxvi) model of military marriage. The present study utilizes aspects of marital resources to describe established patterns of interaction and adaptive processes to conceptualize daily strategies.

The model of military marriage encourages the examination of multiple rhythms within military families. Enduring traits and marital resources can be likened to slower temporal rhythms that reflect couples' general tendencies to interact with each other. In contrast, emergent traits and adaptive processes occur at faster temporal rhythms and might be more variable and fluid. In conjunction with communication processes as theorized by Walsh, the present study will examine military couples' enduring traits, their established communication patterns, and emergent traits, their daily communication strategies, as the mechanisms through which couples adjust during reintegration.

### ***Established communication patterns***

Communication processes are a vital component to family life and couple interactions. As relationships develop, established patterns are often developed through individuals' interactions, such as how they communicate with each other (Marini et al., 2018). These established patterns can include how couples generally relate, converse, listen, and solve disputes with each other. Established communication patterns are predictive of a variety of couple processes including intimacy and connection (Mitchell et al., 2008), relational maintenance and development (Ogolsky, Monk, Rice, Theisen, & Maniotes, 2017), and increased relationship satisfaction and confidence (Barton et al., 2017).

Communication is vulnerable to the effects of stress on a couple but can also be a mechanism through which relationships grow and develop (Ledermann, Bodenmann, Rudaz, & Bradbury, 2010; Neff & Karney, 2017). Conflict is implicit in couples' communication: strained communication might lead to more conflict whereas effective communication might mitigate conflicts between partners. Much of the work surrounding couple conflict resolution has stemmed from John Gottman and colleagues' observations of healthy and distressed couples during conflicted interactions. In their work, they found robust associations between negative conflict resolution (e.g., stubbornness, contempt) and marital dissolution, and positive conflict resolution (e.g., active listening, humor) and marital stability (e.g., Gottman & Krokoff, 1989; Gottman & Levenson, 1992). Two domains of conflict resolution strategies that are derived from Gottman and colleagues' work were utilized in the present study. Specifically, effective problem-solving is defined as individuals' abilities to comprise and negotiate during conflict (Kurdek, 1994).

Withdrawal is a deconstructive conflict resolution strategy whereby individuals shut down, refuse to discuss the conflict, and shuts the other individual out (Kurdek, 1994).

### ***Daily communication strategies***

Daily communication strategies are also fundamental to individual and couple well-being. Compared to established communication patterns, daily communication strategies are much more fluid and might vary from the general tendencies of established patterns. Within the present study, daily communication strategies were conceptualized as competent and effective communication strategies, such as clear communication or engaged listening (Guerrero, 1994). These daily communication strategies are correlated with the established patterns but might fluctuate day-by-day in response stress. For example, daily work-related stress can negatively affect individuals' behavior which can also have cascading impacts onto the behaviors of other family members (e.g., emotion transmission; Larson & Almeida, 1999; Repetti et al., 2009). As such, couples who might have an established pattern of effective problem-solving might exhibit less effective daily communication as a result of stress. Conversely, those with an established pattern of withdrawal might exhibit more effective daily communication on days with low stress.

### ***Associations between communication rhythms***

These temporal rhythms are related, but each can make unique contributions to couple functioning (Fraenkel, 1994). For example, Li and colleagues (2018) sought to examine the interplay between daily communication strategies (measured as the frequency and quality of daily exchanges), established conflict resolution patterns (measured as the frequency of certain behaviors in conflicts), and subsequent marital quality. Utilizing three waves of data from newlywed couples, investigators found that each temporal rhythm explained unique variance in marital quality, above and beyond the variance they shared (Li et al., 2018). Results from the cross-lagged panel analyses indicated that daily communication strategies predicted conflict resolution behaviors a year (i.e., faster to slower rhythms), but the reverse association was not true: no evidence emerged for pathways from conflict resolution strategies to daily communication (i.e., slower to faster). These results highlight the importance of examining the unique contributions of temporal rhythms (i.e., non-shared variance).

Temporal rhythms and interactions between both rhythms are also exemplified within an investigation conducted by Story and Repetti (2006) on marital interactions and stressful work spillover within 43 dual-earner couples. The authors collected data from both partners' daily work stress and marital interactions at multiple times per day across five days. The researchers also collected information regarding couples' established relational patterns at a separate time point. Using multilevel modeling, the authors examined variation in individuals' daily strategies and differences between couples' established patterns. At faster rhythms, Story and Repetti found significant variation within each partners' marital interactions in response to levels of daily work stress (Story & Repetti, 2006). Additionally, they found a significant moderation between couples' temporal rhythms such that individuals who endorsed established patterns of conflict (measured by individual-reports of high levels, in general, of anger and aggression) were more reactive to daily work stress, which had the strongest negative effect on marital processes (Story & Repetti, 2006). These results suggest that couples' global tendencies to engage in certain behaviors can shape exchanges occurring at faster rhythms (i.e., slower to faster rhythms). As such, this report further reflects the importance of examining marital interactions at multiple temporal rhythms.

These two studies provide empirical evidence for intersections between temporal rhythms within the context of couple communication. Li and colleagues (2018) found that faster rhythms (i.e., daily communication) affected couples' marital quality at slower rhythms. In contrast, Story and Repetti (2006) found that couples' established patterns at slower rhythms constrained interactions at faster rhythms (i.e., *less* reactive to daily stress.) In other words, transformations within faster rhythms might have long-term consequences for how couples respond and relate to each other (Repetti et al., 2009). Alternatively, couples' established tendencies might be particularly robust and thus constrain interactions at faster rhythms. The present study examined the intersection of two temporal rhythms within the context of a military deployment and contributes to a growing field on the complexities family life at different temporal rhythms.

### **Temporal Rhythms and Military Couples**

Examining couple processes at two temporal rhythms (e.g., established patterns and daily strategies) in a military context provides a nuanced perspective on couples' transitions across a deployment cycle (Marini et al., 2018). A recent review by Marini and colleagues (2018) highlighted the dearth of research explicitly examining daily-level processes and also intersections

between temporal rhythms across a deployment cycle. Further, the review mentioned how deployments might disrupt daily processes and incite reorganizations in established patterns. The authors argued that interdependence in temporal rhythms can provide a unique understanding of couple functioning across a deployment cycle. Subsequently, this intersection of temporal rhythms might explain why some romantic couples are relatively unaffected by deployments and why some couples experience dysfunction (Marini et al., 2018).

### **Military as a context**

The military has long been studied as a context presenting stress, uncertainty, and transitions that may have substantial implications for life course trajectories (MacLean & Elder, 2007) and family systems (Riggs & Riggs, 2011). Prior work has studied the impacts of war, separation, and transitions on families during World War II (e.g., Hill, 1949), the Vietnam War (e.g., Jordan et al., 1992), and more recently, the continuing conflicts in the Middle East (MacDermid Wadsworth, 2010). In particular, Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) have created unique experiences for service members and their families.

During OIF/OEF, service members have experienced longer and more numerous deployments than in past conflicts (Institute of Medicine, 2013). For example, in the first decade of the war, there were over 3.6 million deployments, averaging to 1.72 deployments per service member, with some service members deploying up to 47 times (Institute of Medicine, 2013). Increased deployment frequency in conjunction with decreased dwell-time between deployments can have additive effects on families and couples (Institute of Medicine, 2013). Improved quality and accessibility of communication technology during deployment have also allowed families to maintain connections despite separations (Meek, Totenhagen, Hawkins, & Borden, 2016). These same communication modalities, however, can also create strains and challenges for both service members and their families as stress arises (Greene, Buckman, Dandeker, & Greenberg, 2010; Hinojosa, Hinojosa, Hognas 2012).

National Guard and Reserve service members have been activated at greater numbers to OEF/OIF deployments than any other conflict (Institute of Medicine, 2013). Research suggests that National Guard and Reserve service members and their families may be at heightened risks due to living far away from active duty bases and military-connected communities, and managing circumstances related to civilian and military lifestyles (MacDermid Wadsworth, 2010). Taken

together, there are several unique circumstances facing OEF/OIF service members—specifically National Guard and Reserve components—and their families that warrant attention.

## **Deployment cycles**

Cumulatively, military research has illuminated the substantial risk and adversity associated with deployment cycles. Fundamentally, deployments can disrupt how family systems interact with each other and can incite adjustments within relationships. Formally, a military deployment is the mobilization of service members to another location, either combat or non-combat, to fulfill mission responsibilities. Deployments catalyze family processes as individuals react and adjust to the extended separation. A useful mnemonic for these transitions and adjustments is a *deployment cycle*, though the actual lived-experiences of military families might be fluid, non-linear, and unique.

The deployment cycle begins at *predeployment* when service members are notified of an upcoming deployment. Families may begin preparing for a separation which may change how partners interact with each other (Balderrama-Durbin et al., 2015; Sahlstein, Maguire, & Timmerman, 2009). During *deployment*, service members are physically absent from the family system but may be involved remotely, via phone or technology (Riggs & Riggs, 2011). Family members may adjust to this separation by developing new household routines and maintaining relationships through communication, or being resistant to change (Maguire, Heinemann-LaFave, & Sahlstein, 2013; Merolla, 2010; Weins & Boss, 2006). Upon service member's return, from deployment, a period referred to as *reintegration*, military families may adjust and reconnect to each other. Interactions in establishing new routines and recoupling during reintegration can be rife with uncertainty, contrasting expectations, high emotions, psychological changes, and miscommunication (Bowling & Sherman, 2008; Yablonsky, Barbero, & Richardson, 2016).

Because deployment-related disruptions do not cease once service members return, it is important to understand how parts of the family system readjust following months of potentially reorganized routines. These transitions during reintegration can be challenging for families. Nearly one-fifth of recently-returned airmen reported challenges in multiple domains of family functioning, with one-half of the entire sample expressing challenges in at least one domain (Balderrama-Durbin et al., 2015). In another sample of OEF/OIF veterans seeking behavioral health evaluations, most reported issues in at least one domain of family readjustment with a

majority reporting these occurring on a weekly basis (Sayers, Farrow, Ross, & Oslin, 2009). Additionally, much of the work done by Knobloch and colleagues on the relational turbulence theory has illuminated interference from partners in daily routines and communication challenges that can impede family functioning during reintegration (Solomon, Knobloch, Theiss, & McLaren, 2016). The prevalence of issues for service members and their families highlights the need for understanding factors that contribute to functioning during reintegration.

Across a deployment cycle, military couples experience a variety of transitions that can be stressful and disrupt patterns or incite changes in the organization of family role responsibilities. During deployment, at-home partners may acquire new role responsibilities to accommodate to the absence of service members. For example, spouses of deployed service members reported more sole decision-making and increased household responsibilities when service members were absent (Martindale-Adams, Nichols, Zuber, Graney, & Burns, 2016). Upon reunion, couples may again distribute and reorganize role responsibilities to adapt to service members' presence within the family system.

### **Role negotiations**

Role negotiations are a common theme mentioned in military literature and surrounds how role responsibilities might be relinquished, acquired, or negotiated in accordance with deployment cycles. As described in life course theory, roles encompass the responsibilities associated with social positions that an individual might occupy, such as being a student, a worker, or a parent (Macmillan & Copher, 2005). Within family systems theory, members are prescribed unique responsibilities according to their roles and how well individuals fulfil their roles can propel or hinder family adaptation (Minuchin, 1985). In other words, roles are the patterns of individuals' behaviors that are tied to specific social locations and that other members expect to be fulfilled by the individual (Minuchin, 1985). While roles can encompass a variety of identities, the present study examines the roles and responsibilities associated with family life such as household maintenance, decision making, household chores, and relationship functioning (e.g., providing support for partners).

## **Role negotiations during reintegration**

Reintegration is a period where individuals and dyads might be the most susceptible to ambiguity and strain due to changes with role performance and expectations. During reintegration, challenges within role negotiations can differ for service members or significant others.

Significant others often mention difficulties in both acquiring and relinquishing new role responsibilities. For example, significant others reported increased self-confidence during deployment through the acquisition of new household role responsibilities, but renouncing these new role responsibilities during reintegration was a source of tension for couples (Baptist et al., 2011). Alternatively, significant others might feel strain as a result of acquiring of new role responsibilities previously performed by service members (e.g., being a “single mother” while service members are gone; Sahlstein et al., 2009). During reintegration, significant others have also reported uncertainty in their expectations of service members and were hesitant to ask too much of their partners too soon during reintegration (Faber, Willerton, Clymer, MacDermid Wadsworth, & Weiss, 2008). Significant others have also expressed frustration when service members interfered with and interrupted daily routines that the family have developed while service members were deployed (Baptist et al., 2011).

Service members have reported uncertainty and challenges in regaining routines and fulfilling expectations after being absent for an extended period. Service members have reported feeling like an outsider, unsure of their place within the family, and worried about impeding daily routines of other members (Faber et al., 2008). Service members have also reported challenges in adjusting to new family routines that were enacted during their absence (e.g., bedtime, childcare) while struggling to reconnect with their children (Knobloch, Basinger, et al., 2016).

Both significant others and service members may also experience strained relationship functioning while reconnecting with each other. Couples have reported that stress arose during the transitions from independence during deployment to interdependence during reintegration (Faber et al., 2008; Karakurt, Christiansen, MacDermid Wadsworth, & Weiss, 2013). Uncertainty in the future of the relationship and interference in daily activities by partners have been associated with tumultuous reintegration experiences (Knobloch, McAninch, Abendschein, Ebata, & McGlaughlin, 2016), indicating that interruptions in one’s relationship can lead to reintegration challenges. Further, individuals have reported challenges in regaining intimacy and romantic connections with their partners. Changes in individuals (e.g., mental health), unclear expectations



for intimacy, and previous experiences of infidelity have negative impacts on relationship functioning and marital quality (Baptist et al., 2011; Knobloch & Theiss, 2012).

Reestablishing relationship connections can be especially challenging as individuals redefine boundaries during reintegration (Riggs & Riggs, 2011). These role negotiations can generate conflict within couples as individuals may struggle with understanding expectations of each other, experiencing challenges in relinquishing new roles. For example, qualitative evidence suggests that individuals might struggle with uncertainty in daily household routines, such as how to accommodate service members into household chores, how to negotiate differences in control issues, and the confusion surrounding role expectations (Knobloch & Theiss, 2012).

The inability to clarify roles can lead to role ambiguity, which can contribute to poorer family functioning (Hollingsworth, Dolbin-MacNab, & Marek, 2016). Negative reintegration experiences are associated with impaired family functioning (O'Neal et al., 2018), and increased anxiety and parental guilt for service members (Clark, O'Neal, Conley, & Mancini, 2018). Conversely, positive reintegration experiences are positively related with service members' reports of family functioning and personal well-being (Clark et al., 2018). Thus, clear role expectations and effective role negotiations could be beneficial for healthy family functioning during reintegration. While role negotiations are a common theme in existing literature, much less is known about the mechanisms that drive successful role negotiations. Situated within the family resilience framework (Walsh, 2016b) and model of military marriage (Karney & Crown, 2007), communication could be one such mechanism that contributes to "successful" role negotiations.

### **Couple communication across deployment**

Across deployment cycles, changes can occur in how members of couples communicate with each other. During deployment, communication is a mechanism through which couples can maintain their relationships (Merolla, 2010), make decisions (Martindale-Adams et al., 2016), and cope with deployment stress (Maguire et al., 2013). For example, in a sample of National Guard spouses, daily communication and support were associated with feelings of connectedness towards deployed service members (Wilson et al., 2017). Alternatively, deployments can also strain communication quality and effectiveness due to technological disruptions (Hinojosa et al., 2012), topic avoidance (Rossetto, 2013), or protective buffering (Joseph & Afifi, 2010).

There is a body of evidence that suggests communication processes during deployment are associated with experiences during reintegration. For example, communication during deployment was correlated with individual and relationship functioning during reintegration (Ponder & Aguirre, 2012). In another sample, service members' initiation of communication during deployment was associated with service members' and partners' relationship satisfaction during reintegration (Carter & Renshaw, 2016). Communication during deployment (specifically destructive communication) positively predicted anxiety for service members and their partners during reintegration (Knobloch, Knobloch-Fedders, & Yorgason, 2018). Communication and household maintenance during deployment were positively related to service members' and significant others' positive reintegration experiences (Clark et al., 2018).

Couples conversely might struggle with transitions between communication strategies used during deployment and those used during reintegration. In a qualitative examination of 34 National Guard reservists and family members, investigators identified strategies that impacted how couples communicated across a deployment cycle (Faber et al., 2008). While service members were absent, communication between some partners was "closed" where only relevant and important information was shared. During reintegration, however, communication transitioned from closed to "open" where partners shared more information with each other. Additionally, the authors found that role ambiguity and relationship strain were introduced when couples struggled with transitions in communication strategies across phases of deployment. When partners were selective about what information to share while the service member was deployed, couples experienced greater challenges in sharing information following a deployment (Faber et al., 2008). Taken together, communication quality during deployment can have rippling effects on communication and relationship experiences for couples during reintegration.

During reintegration specifically, couples have reported improvements and challenges in communicating with each other. In a sample of 236 service members and significant others, Knobloch and colleagues (2016) found that communication during reintegration was both enhanced and strained due to the separation. In that study, most participants reported improvements within their communication quality, such as endorsing more open, positive, and confident conversations. Individuals within this same study also reported challenged communication strategies such that there were more negative moods, less frequent communication engagement, and more effortful conversations. Communication during reintegration can also be

strained due to intra-individual changes that arose throughout the deployment cycle. For example, generalized anxiety and relational uncertainty positively predicted individuals' own topic avoidance during reintegration (Knobloch, Ebata, McGlaughlin, & Theiss, 2013). Negative communication during reintegration has been shown to predict reintegration stress, even after controlling for other indicators of relationship functioning (Allen, Rhoades, Stanley, & Markman, 2011).

On the flip side, open, constructive communication can be especially important during reintegration when individuals are adjusting and negotiating their role responsibilities. For example, disclosure of deployment experiences during reintegration has been associated with decreased mental health symptomology for individuals, suggesting that communication might be one mechanism through which individuals adjust during reintegration (Balderrama-Durbin et al., 2013). Another study by Houston and colleagues (2013) investigated communication between multiple members of military families and found that quality communication between partners was associated with decreased stress, anger, and loneliness (Houston et al., 2013). Alternatively, relationship uncertainty during reintegration might improve communication strategies as couples attempt to find ways to mitigate the uncertainty (Theiss & Knobloch, 2014).

### **Present Study**

Families are embedded in contexts that can place demands on families and shape how they enact or fulfill their roles (Elder, 1994; Hollenstein et al., 2013). Across deployment cycles, the reorganization and negotiation of these roles can create challenges such as uncertainty and ambiguity in role responsibilities, and interference from partners in routines (Knobloch, McAninch, et al., 2016). While role strain has been documented during reintegration, less is known about *how* couples successfully (or unsuccessfully) negotiate household role responsibilities in the months following deployment. Pulling from the family resilience framework (Walsh, 2016b) and model of military marriage (Karney & Crown, 2007), communication was hypothesized to be instrumental for couples' adjustment and negotiation of family role responsibilities during reintegration. Examining communication within the context of military reintegration is especially important as literature has not only highlighted the benefits of communication in maintaining relationships during deployment (Merolla, 2010; Wilson et al., 2017) but also how communication can worsen or change as a result of the stress and separation (Knobloch, Basinger, et al., 2016).

Within the context of time, different rhythms move faster or slower, with each rhythm related to the others but also providing unique information. As these temporal rhythms progress, family systems develop patterns that are maintained or changed through feedback loops between systems' members (Cox & Paley, 1997). Certain kinds of patterns within families, such as effective communication behaviors, are associated with positive outcomes in military contexts (Karney & Crown, 2007; Walsh, 2016). Existing literature of military couples during reintegration has traditionally relied on reports of individuals' and couples' global communication characteristics, tapping into slower temporal rhythms (i.e., established patterns) between partners. Because research suggests that communication can be enhanced or hindered during reintegration (Knobloch, Basinger, et al., 2016), operationalizing communication as a stable trait might obscure underlying nuance or variation in couples' interactions at faster rhythms (Marini et al., 2018). Alternatively, relying solely upon measures tapping into faster rhythms (e.g., day-to-day exchanges) might lead researchers to conclude that families experience immense upheaval during reintegration. As such, recent research has called for an examination of the dynamic interplay between couples' experiences at separate temporal rhythms, particularly within military couples across a deployment cycle (Marini et al., 2018). As such, the present study relied upon this comprehensive theoretical foundation to examine couple processes across deployment-related transitions, and the interplay between two time scales: established patterns and daily exchanges.

The present study makes several methodological contributions to the couple processes during transitions literature. First, data from participants were collected at multiple temporal rhythms. As such, I was able to examine couples' established communication patterns and their daily communication behaviors. Second, much of the research on military couples is retrospective and likely contains recall bias (Laurenceau & Bolger, 2005). The data utilized for the current project are prospective and longitudinal where participants provided data at three times across a five-month study window. Further, much of what we know about military couple processes come from studies with individual reports which can fail to capture the interdependence and feedback loops in romantic relationships. The data for the present study come from both partners where one partner is a National Guard service member who recently experienced a deployment. Guided by these theoretical frameworks and methodological contributions, two research questions guided this investigation to evaluate how established communication patterns and daily communication

strategies intersected and contributed to couples' roles negotiations. Conceptual models for the following research questions and hypotheses are presented in Figure 2.

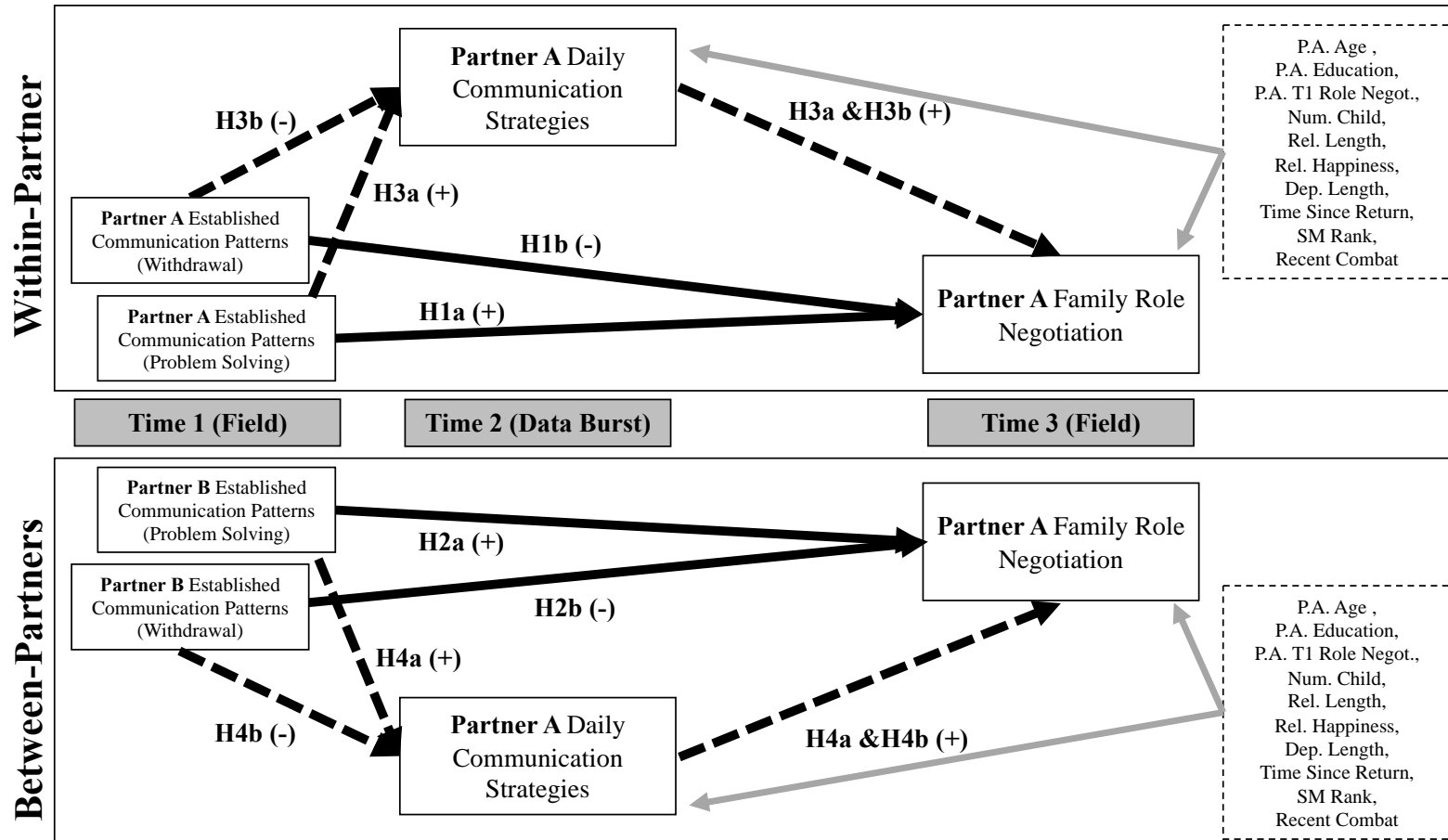


Figure 2. Conceptual model for present study.

Research Question 1 tested Hypotheses 1 and 2 (solid lines); Research Question 2 tested mediation in Hypotheses 3 and 4 (dotted lines). Covariates are indicated by a dotted-line box and were modeled on both mediator and outcomes (gray lines).

### **Research question one: Established communication patterns**

The first research question was, “what is the role of established communication patterns in role negotiations during reintegration?” This research question draws upon the model of military marriage (Karney & Crown, 2007) and hypothesized that established communication patterns would influence role negotiations. Data from Time 1 (T1) and Time 3 (T3) in-person global interviews were utilized to address the first research question.

#### ***Hypotheses 1a and 1b: Within-person established patterns***

I first expected that individuals’ reports of their established communication patterns at T1 would predict perceptions of their own role negotiations at T3. Specifically, I hypothesized that individuals’ T1 problem solving patterns would be positively associated with perceptions of their own role negotiations at T3 (Hypothesis 1a). I also hypothesized that individuals’ T1 withdrawal patterns would negatively predict perceptions of their own T3 role negotiations (Hypothesis 1b).

#### ***Hypotheses 2a and 2b: Between-partners established patterns***

I then expected that individuals’ established communication patterns at T1 would predict their *partners’* perceptions of role negotiations at T3. I hypothesized that that individuals’ T1 problem solving patterns would positively predict their partners’ perceptions of role negotiations at T3 (Hypothesis 2a). I also hypothesized that individuals’ T1 withdrawal patterns would negatively predict their partners’ perceptions of role negotiations at T3 (Hypothesis 2b). Hypotheses 2a and 2b were guided by the family systems framework and provided a deeper understanding of interdependence between partners. For example, significant associations between one member’s established communication patterns and another’s perceptions of role negotiations (i.e., support for Hypotheses 2a and 2b) would indicate that dyadic processes are instrumental for reintegration role negotiations.

### **Research question two: Daily communication**

The second research question was, “to what extent do daily communication strategies mediate the relationships between established communication patterns and role negotiations?” Drawing upon the family resilience framework (Walsh, 2016b), the second research question

investigated the mediating role of daily communication between established communication patterns and role negotiations. Data from Time 2 (T2) daily diaries were included to address this research question.

### ***Hypotheses 3a and 3b: Within-person daily communication***

I hypothesized that positive associations between individuals' T1 problem solving patterns and their T3 role negotiations would be mediated by individuals' reports of T2 daily communication strategies (Hypothesis 3a). Said another way, I expected that established patterns of problem solving to be positively associated with daily communication, which itself would be positively associated with individuals' role negotiations. Similarly, I hypothesized that the negative association between individuals' T1 withdrawal patterns and perceptions of their own role negotiations at T3 would be mediated by individuals' T2 daily communication strategies (Hypothesis 3b). In other words, I expected that individuals' global tendencies to withdraw would be negatively associated with their own daily communication strategies, and this negative association would qualify the positive association between daily communication strategies and role negotiations.

### ***Hypotheses 4a and 4b: Between-partners daily communication***

Finally, I expected that associations between individuals' T1 established communication patterns and their *partners'* perceptions of T3 role negotiations would be mediated by partners' daily communication strategies at T2. I hypothesized that partners' T2 daily communication strategies would explain the positive association between individuals' T1 problem solving patterns and their partners' perceptions of T3 role negotiations (Hypothesis 4a). Lastly, I hypothesized that negative associations between individuals' T1 withdrawal patterns and their partners' perceived role negotiations at T3 would be mediated by partners' use of daily communication strategies at T2 (Hypothesis 4b).



## **METHODS**

### **Procedure**

Data for this project come from a larger, longitudinal two-year study of the experiences of National Guard families over the course of a deployment cycle. Data were collected from members of Indiana National Guard between 2010 and 2018. Eligibility included service members were those 1) currently involved in a deployment cycle and 2) living with a spouse or significant other who was interested in participating. Both service members and significant others had to be over the age of 18 years old.

### **Recruitment**

Between 2010 and 2017, two waves of recruitment were conducted with every deploying unit in the Indiana National Guard for which commanders gave permission. The first wave of recruitment occurred at predeployment briefings (i.e., before service members' departure) for multiple deploying units. The Indiana National Guard hosted these mandatory predeployment briefings to provide service members and their families with relevant information and resources for the upcoming deployment. Research staff attended these predeployment briefings to recruit service members and their families into the study. Prior to the briefings, service members in each unit were mailed project eligibility and logistics. Interested service members and their partners provided contact information at the predeployment briefings. Interested participants were then contacted at a later date (but prior to service members' departure) to confirm participation, provide additional information, and schedule their first interview. For the purposes of the current study, service members and their partners recruited at the predeployment briefings are referred to as the "original sample."

A small subset of couples were recruited at reunion briefings following service members' return from deployment. These reunion briefings were similar to predeployment briefings but occurred after services members' return home. Again, families of service members returning from deployment were mailed project information and eligibility prior to these reunion briefings. Research staff attended the reunion briefings to provide project information and to collect contact information. Couples recruited at the reunion briefings participated only in the reintegration

interviews. This recruitment strategy allowed for a replenishment of sample size following attrition in the original sample during deployment. For the purposes of the current study, couples recruited at reunion briefings are referred to as the “reintegration sample.”

### **Data collection**

With regard to the larger longitudinal study, couples in the original sample were eligible to participate in up to six in-person field interviews across the deployment cycle (i.e., field interviews), 14 daily online surveys during deployment (i.e., daily diaries), and 12 daily telephone surveys during reintegration (i.e., daily data bursts). It is important to note that service members did not participate in data collection during deployment. Thus, service members in the original sample were eligible to participate in four in-person field interviews (one prior to deployment, three following deployment) and the 12 daily data bursts during reintegration. Couples in the reintegration sample were eligible to participate in three in-person field interviews and 12 daily data bursts during reintegration. Participants were compensated for their time after each interview.

For the purposes of the present study, I used four interviews from couples: baseline for demographic variables (T0), two waves of reintegration field interviews (T1 and T3), and one wave of daily data bursts (T2). Figure 3 provides an overview of the timeline utilized for the present study. The methodological design allows for the examination of couples’ lives at multiple temporal rhythms through the use of data from field interviews and daily data bursts.

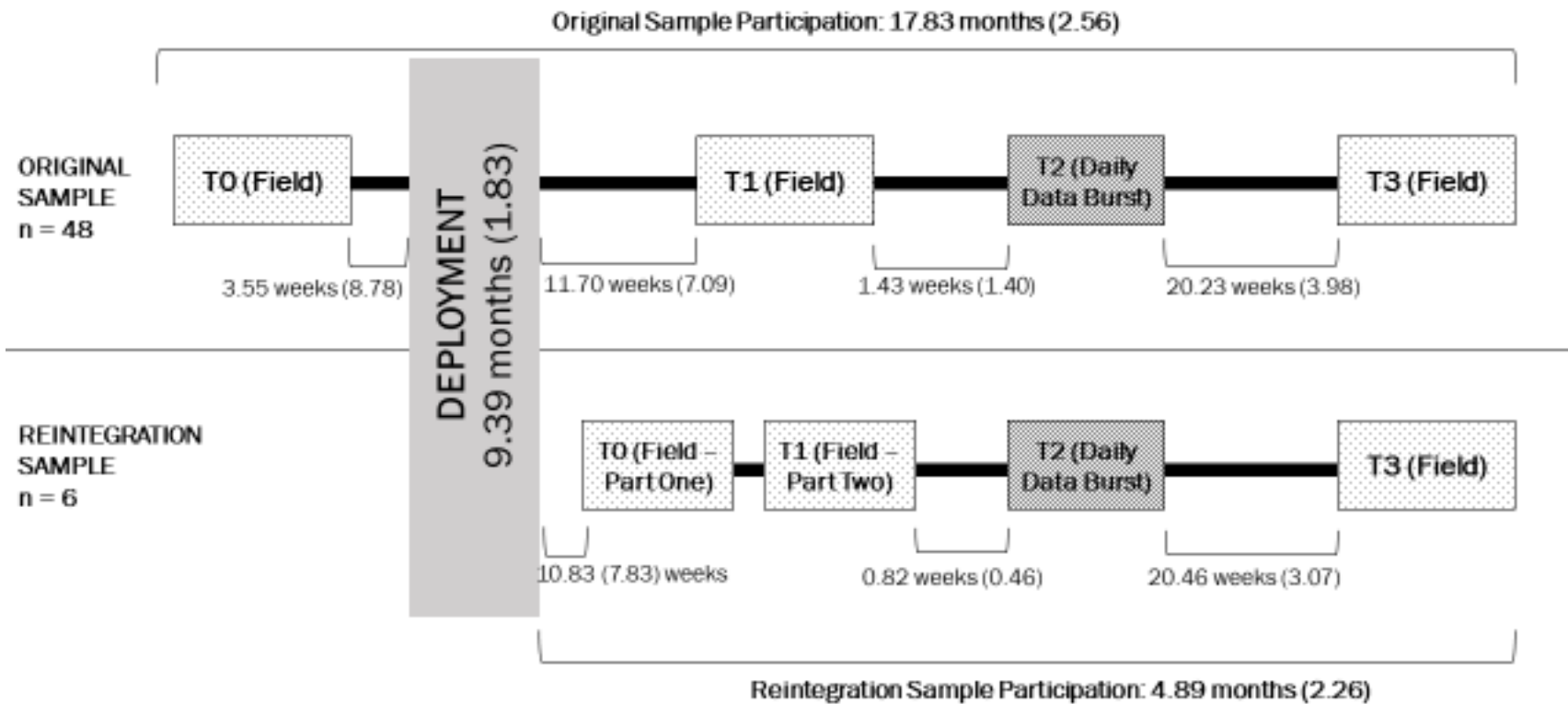


Figure 3. Study timelines for original and reintegration samples.

Boxes with dotted background reflects in-person field interviews; boxes with checkered background reflected daily data bursts conducted via telephone. Means and (standard deviations) of time between each interview component are presented.

### ***Field interviews***

The field interviews (T0, T1, and T3) were designed to capture couples' global, established patterns of family life. During these interviews, participants reported on how things "in general" had been going for the family. Trained professionals conducted field interviews in participants' homes or local public spaces (e.g., libraries, restaurants, coffee shops). To reduce interview length, couples were mailed pre-interview surveys to complete prior to the T1 and T3 interviews. At the beginning of each interview (T0, T1, and T3), couples completed a joint session where family-level information was gathered from both partners. After the joint session, each participant completed interviews in separate areas of the home to provide privacy. Topics discussed during field interviews included global measures of individual and relationship functioning, recent changes in employment, personal health, the military, parenting, and child well-being. Field interviews lasted approximately two hours and were audio recorded. Responses were recorded by interviewers on paper or via an online web platform (Qualtrics).

### ***Daily data bursts***

At the conclusion of the T1 field interview participants were invited to participate in another component of the study: a "burst" of daily telephone phone calls. This component was designed to capture the daily variability within households during reintegration. These surveys occurred via telephone and captured interactions over the preceding 24 hours. Couples provided four dates where both partners could be reached. Interviewers left response cards to be utilized during the telephone surveys. On each night of scheduled calls, participants were contacted separately by trained undergraduate and graduate researchers. During these calls, participants reflected on activities around the household (e.g., participation in chores) and interactions with their partner (e.g., communication strategies) over the previous 24 hours. Calls lasted approximately 20 minutes and were audio recorded for quality purposes. All responses were entered by trained interviewers in Qualtrics. Most calls were conducted in the evening between 6:00 and 9:30 PM. Most individuals (83.33% service members and 96.30% significant others) completed at least four nights of interviews. On average, service members completed 3.88 days ( $SD = 0.47$ ) and significant others participated on 4.02 days ( $SD = 0.31$ ). These calls occurred

across the span of 5.57 days ( $SD = 4.10$ ) for service members and 5.42 days ( $SD = 3.51$ ) for significant others.

### ***Methodological differences by sample***

There are a few methodological design differences between the original and reintegration samples. Specifically, an important distinction must be made regarding each sample's baseline (T0) field interview where relevant demographic information was collected. Original sample couples participated in T0 prior to service members' departure. A small subset of the original sample were 'activated early,' meaning that service members deployed prior to completing their first interview. In other words, partners completed the first interview prior to deployment but service members completed their first interview immediately following deployment. Service members in this subset completed a supplemental survey prior to completing the T1 field interview. This supplemental survey collected demographic information from service members during reintegration.

Reintegration sample couples were eligible to participate in only the reintegration waves. Because of this, these couples participated in their initial baseline field interview after service members' return from deployment. To accommodate this methodological difference, the first field interview was divided into two parts. Part One resembled the original samples' predeployment field interview where demographic information was collected (i.e., T0). Part Two occurred approximately two weeks after the first part and resembled the original sample's first reintegration field interview (i.e., T1). Part Two collected the present study's predictor and outcome variables.

For parsimony, the interviews that collected demographic information will be referred to as T0. This includes the initial field interview that collected demographic information, either before deployment (for original sample) or after deployment (for reintegration and early anticipation samples). The reintegration field interview that collected variables relevant to the present study will be referred to as T1: the first field interview (for the original sample) and the second part of the field interview (for the reintegration sample). Both original and reintegration samples completed identical T2 and T3 data collections. As detailed in the analytic strategy section, time-dependent covariates were updated to reflect accurate values despite methodological differences between samples.

### ***Interview timelines***

Predictor, mediator, and outcome variables were collected during an eight-month period following a deployment. Interview timings differed between couples in the original and reintegration samples. Figure 3 presents an overview of the interview timeline differences.

#### ***Original sample***

The predeployment field interview (T0) occurred approximately 3.55 weeks ( $SD = 8.78$ ) prior to service members' departure. The first reintegration field interview (T1) occurred approximately 11.70 weeks ( $SD = 7.09$ ) after service members' return. Participation in the daily data bursts (T2) occurred approximately 1.43 weeks ( $SD = 1.40$ ) after couples' T1 field interviews. Finally, couples participated in their second reintegration field interview (T3) approximately 20.23 weeks ( $SD = 3.98$ ) after the first day of the T2 data burst. Thus, the total length for the present study (i.e., time between T0 and T3) was approximately 17.83 months ( $SD = 2.55$ ).

#### ***Reintegration sample***

All interviews for couples in the reintegration sample were conducted after service members' return. For these couples, the baseline field interview (T0) occurred approximately 10.86 weeks ( $SD = 7.15$ ) after service members' return from deployment whereas the second part of this field interview (T1) occurred approximately two weeks after the baseline interview. The length between T1 and T2 data burst was approximately 1.15 weeks ( $SD = 0.96$ ). Finally, T3 occurred approximately 20.87 weeks ( $SD = 2.98$ ) after the first day of the T2 data burst. The total length of study involvement for the reintegration sample was 5.22 months ( $SD = 2.24$ ).

## **Participants**

### **Sample inclusion**

A total of 54 couples were included in the sample for the present study. As detailed in Table 1, these 54 couples were selected from the larger project sample based on a series of inclusion criteria. First, couples were required to have experienced a recent deployment. Of the 370 families who were enrolled in the larger study, 249 of these families experienced a deployment.

Next, couples had to participate in all three study waves during reintegration (T1, T2, and T3), and not report a relationship dissolution prior to T3. This yielded a sample of 55 couples. Due to the low representation of female service members in the same ( $n = 1$ ), this couple was excluded, yielding a final sample of 54 couples. Within the present study's sample, 48 couples (88.90%) were recruited as part of the original sample and 6 couples (11.10%) were recruited as part of the reintegration sample.

Table 1. *Shrinkage in selection of current study sample*

	<i>N</i> couples
1. Enrolled in larger study	370
2. Service member deployed	249
3. Couple participated at first field interview (T1)	176
4. Couple eligible for first daily data burst (T2) <sup>a</sup>	71
5. Couple participated at first field interview (T1) and daily data burst (T2)	59
6. Couple participated in all three waves: first and second field interviews (T1 and T3) <i>and</i> daily data burst (T2)	55
7. Male service member	54
<b>Total number of couples included in current sample</b>	<b>54</b>

*Note.* <sup>a</sup>Eligible couples for participating in T2 daily data burst were those who conducted their first reintegration interview after January 2015.

It is important to note that of the couples who participated in T1 ( $n = 176$ ), only 30.68% of couples provided the necessary data for the present study. This is due largely to procedural circumstances of the larger longitudinal project. Additional funding was acquired in January 2015 to conduct the daily data bursts so couples were ineligible for participating in the T2 daily data burst if they conducted their T1 prior to this date (i.e., start of project through December 2014). Of the 176 deployed couples who had participated in the first field interview (T1), 60% ( $n = 105$ ) were *ineligible* to participate in the T2 daily data burst. When considering the 71 couples eligible to participate, 83% ( $n = 59$ ) participated in T2. As such, sample shrinkage was (mostly) not due to attrition, but rather ineligibility for T2.

## Demographic information

Data from 108 individuals within 54 heterosexual couples were utilized for the present study. Male service members ( $n = 54$ ) were mostly white (80.00%) with an average age of 33.78 years ( $SD = 9.03$ ). Most service members completed some college (38.89%), high school (18.52%), a bachelor's degree (18.52%) or a graduate degree (16.67%). Service members were mostly enlisted (77.78%) and had an average military career length of 11.96 years ( $SD = 7.62$ ). The average length of the most recent deployment was 9.38 months ( $SD = 1.83$ ). This deployment was the first deployment experience for 19 service members. For the other service members, the number of previous deployments ranged from 1 to 5. At T1, service members had been home for approximately 11.89 weeks ( $SD = 7.06$ ). Female significant others ( $n = 54$ ) were mostly white (83.33%) with an average age of 32.03 years ( $SD = 8.28$ ). Most significant others earned a bachelor's degree (27.78%), some college (25.93%), an Associate's degree (18.52%), or a high school diploma (16.67%). All couples except 3 were married (94.45%); the rest were cohabiting. Most couples were married (94.44%) and had been together, on average, for 9.27 years ( $SD = 5.81$ ). Most couples had children (83.33%), creating an average family size of 1.87 kids ( $SD = 1.32$ ) per couple. Table 2 summarizes this demographic information.



Table 2. *Demographic Characteristics for Male Service Members (n = 54) and Female Significant Others (n = 54)*

	<i>Service members</i>			<i>Significant others</i>		
	<i>%</i>	<i>M (SD)</i>	<i>Range</i>	<i>%</i>	<i>M (SD)</i>	<i>Range</i>
Age (years)		33.78 (9.03)	21.00 – 58.71		32.03 (8.28)	19.99 – 54.25
Race / Ethnicity						
White	80.00			83.33		
African American	10.00			7.41		
Asian	2.00			3.70		
Other / Multiple race <sup>a</sup>	8.00			5.56		
Education						
High school diploma	18.52			16.67		
Technical certificate	0.00			5.56		
Some college	38.89			25.93		
Associate degree	7.41			18.52		
Bachelor's degree	18.52			27.78		
Graduate degree	16.67			5.56		
Service member military history <sup>b</sup>						
Service length (yrs.)		11.96 (7.62)	1.85 – 34.71			
Deployment length (mos.)		9.38 (1.83)	3.19 – 11.53			
Time since return (wks.) <sup>c</sup>		11.89 (7.06)	1.14 – 31.29			
Enlisted	77.78					
Recent combat exposure <sup>d</sup>	59.26					
Relationship characteristics <sup>e</sup>						
Married				94.44		
Length					9.27 (5.81)	2.26 – 26.02
Has children				83.33		
Number of children in home					1.87 (1.32)	0.00 – 5.00

*Note.* <sup>a</sup>Includes American Indian or Alaska Native, and Spanish/Hispanic/Latino. <sup>b</sup>Service member reports. If missing, used significant other reports. <sup>c</sup>Time between service member return and T1. <sup>d</sup>Exposed to at least one combat experience during recent deployment. <sup>e</sup>Significant other reports. If missing, used service member reports

## Measures

Predictor (established communication patterns) and outcome (role negotiations) variables were collected during the T1 and T3 field interviews. Mediator variables (daily communication strategies) were measured during the T2 data burst. Control variables were collected at either baseline (T0) or the T1 field interviews.

### Role negotiations

At T1 and T3 field interviews, participants completed a 12-item measure assessing their adjustment of a variety of family role responsibilities. This self-report measure assessed individuals' perceived ease or difficulty in adjusting to changes within their household, relationship, and individual role responsibilities following a deployment. Participants used a 5-point Likert scale where '1' represented *Very difficult*, '3' represented *Neither easy nor difficult*, and '5' represented *Very easy*. This role responsibility adjustment measure comprises nine items from the Survey of Army Families V (Orthner & Rose, 2005; U. S. Army Community and Family Support Center, 2004). Three items were designed for the current project based on propositions set forth by the Emotional Cycle of Deployment, a model about deployment-related transitions that has received little empirical scrutiny (Pincus, House, Christenson, & Adler, 2001). Within the 12 items, three items specifically mentioned parenting-related tasks. Due to these questions being relevant only for parents, these items were excluded from the present study. Thus, a composite score was created by averaging nine items, with higher scores indicating greater ease in role negotiations and adjustment. Examination of Cronbach's alpha for these nine items indicated good internal reliability for service members at both T1 ( $\alpha = .76$ ) and T3 ( $\alpha = .89$ ). Likewise, significant others had good internal reliability at T1 ( $\alpha = .86$ ) and T3 ( $\alpha = .84$ ).

Appendix A presents the individual items that were included and excluded for the present study. The items selected for the present study focus on tasks related to partner roles (e.g., adjusting to your spouse's personality/moods), household roles (e.g., making household decisions), and individual roles (e.g., working at paid job). Given that anecdotal evidence has linked deployments with disruptions in family roles (Gambardella, 2008), I used this role responsibility adjustment measure as a proxy for role negotiations.

## **Established communication patterns**

Individuals' perceptions of their established communication patterns were measured using the 16-item Conflict Resolution Style Inventory (CRSI; Kurdek, 1994) during the T1 field interview. Participants were asked to report how frequently they engaged in specific activities during conflicts with their partners. The prompt refers to global conflicts (rather than specific conflicts), and as such, leads to an interpretation of individuals' behaviors at slower temporal rhythms (i.e., established patterns). Participants reported how frequently they engaged in the specific behaviors using a 5-point Likert scale from '1' *Never* to '5' *Always*.

The CRSI has four subscales: (a) conflict engagement (e.g., losing control), (b) problem-solving (e.g., negotiations), (c) withdrawal (e.g., "shutting down"), and (d) compliance (e.g., giving in). The present study utilized only the problem-solving and withdrawal subscales, as these are behaviors associated with positive and negative communication strategies, respectively (Gottman & Krokoff, 1989; Walsh, 2016b). The problem solving subscale measures individuals' negotiations and compromises during arguments (Kurdek, 1994) whereas the withdrawal subscale measures the extent to which individuals became distant and avoids arguments. The problem solving and withdrawal subscales each include four items; composite scores were calculated by averaging the four items for respective subscales. As such, higher scores on these subscales indicate greater frequency of engaging in problem solving or withdrawal. Exact wording of the prompt, scale, and individual items are listed in Appendix B. Past literature has shown that each subscale had satisfactory internal consistency for men ( $\alpha = .75$  to  $.85$ ) and women ( $\alpha = .68$  to  $.82$ ; Kurdek, 1994). For the present study, service members' problem solving ( $\alpha = .83$ ) and withdrawal ( $\alpha = .89$ ), and significant others' problem solving ( $\alpha = .80$ ) and withdrawal ( $\alpha = .80$ ) subscales showed acceptable internal reliability.

## **Daily communication strategies**

Individuals' perceptions of their daily communication strategies were measured using five items from the Communication Competency scale (Guerrero, 1994), which itself was an adaptation of the California Interpersonal Competence Questionnaire (Kelly & Chase, 1978). Defined by the original authors, communication competency is facilitative, flexible and appropriate communication that is effective for dyadic interactions (Guerrero, 1994). In its original form, the

Communication Competency scale tapped into individuals' broad perceptions of their communication, listening, and problem solving skills (Guerrero, 1994). Within the larger longitudinal study, we adjusted the wording of this prompt to instead reflect individuals' daily communication competency. This was accomplished by asking participants to reflect on their own communication strategies within the past 24 hours. For example, the initial wording, "my communication is usually appropriate..." was changed to, "my communication was [in the last 24 hours] appropriate for the situations at hand." The prompt of these items asks individuals to reflect upon the last 24 hours, and as such, leads to an interpretation of daily communication strategies. For all the items across all the days, participants used a Likert scale where '1' represented *Not at all true*, '3' represented *Sometimes true*, and '5' represented *Very true*. Exact wording of the prompt, scale, and individual items are listed in Appendix C.

Each of the five items representing individuals' perceptions of their daily communication strategies was administered each day over the span of four days. Thus, across all days, there are a total of 20 items for this construct (five items repeated across four days). Within a single day, the Cronbach's alphas for these items ranged from .65 to .83 for service members and .62 to .83 for significant others. All items across all days of participation were averaged, with higher scores indicating greater use of competent communication strategies on average.

## **Covariates**

To accommodate methodological sample differences, covariates were updated to reflect accurate values at T1. For example, interview dates were used to adjust relationship length to account for samples providing this information at different waves (see Analytic Strategy section for more detail). Information from both partners at the T1 and T0 waves was used to clean covariates that were missing. A list of all demographic variables, including prompts and scaling, are included in Table A1.

## ***Individual characteristics***

Each participants' individual variables (i.e., age, education, T1 relationship happiness, and T1 role negotiations) were included as covariates in respective models. Individuals' highest level of education was included, as there are robust associations between education and family processes

such as communication, household labor, and marital quality (Conger, Conger, & Martin, 2010). Highest level of education was coded to indicate ‘1’ *High school diploma/equivalent*, ‘2’ *Technical degree*, ‘3’ *Some college credit*, ‘4’ *Associate’s degree*, ‘5’ *Bachelor’s degree*, and ‘6’ *Graduate degree*. Relationship happiness was included to account for associations between relationship satisfaction and relationship processes (Bradbury & Karney, 2004). T1 relationship happiness was measured with a single-item prompting participants to rate their overall degree of happiness in their relationship using the scale ‘1’ *Very unhappy* to ‘10’ *Extremely happy*. T1 role negotiations were included to control for prior levels of adjustment.

### ***Relationship history***

Significant others’ reports of relationship history variables (i.e., relationship length and number of children living in the home) were included as covariates in both service member and significant other models. I controlled for the number of children living within the household as past military literature has found negative associations between number of children and marital satisfaction (Karney & Trail, 2017) and parenting role strain (Knobloch, Basinger, et al., 2016). I also controlled for length of relationship (in years) as previous research has shown that longer relationships are associated with less variability in daily behaviors as well as decreased relationship satisfaction (Totenhagen, Butler, Curran, & Serido, 2016).

### ***Military experiences***

Service members’ reports of their military experiences (i.e., deployment length, time since return, rank, combat exposure) were included as covariates in both service member and significant other models. Length of the most recent deployment was a covariate, as previous research found associations between deployment length and individual distress during reintegration (Adler, Huffman, Bliese, & Castro, 2005). Time since return was conceptualized as the time between service members’ return from deployment and the T1 reintegration field interview. Previous literature has indicated that longer time elapsed since deployment is associated with decreased family functioning (Hollingsworth et al., 2016). Service member rank, an indicator of socioeconomic status in the military, is often utilized as a covariate in military literature and is a negative correlate of family stress (Allen et al., 2011). Recent combat exposure was included as a

covariate because it was a significant predictor of attrition in the sample (see Results section). The addition of this variable was supported by existing evidence indicating robust negative associations between combat exposure and relationship processes (Karney & Trail, 2017).

## ANALYTIC STRATEGY

Data were cleaned using IBM Statistical Package for the Social Sciences Version 24 (IBM Corp., 2016) and then analyzed in Stata 15.1 (StataCorp, 2017). Prior to hypothesis testing, several data preparation steps were conducted.

### Data Preparation

#### Daily communication strategies

I created a composite score representing participants' *average* daily communication strategies across at least two days of participation at T2. Thus, these averages included data from two to four days to represent a measure of individuals' average daily communications strategies. This strategy reduced the reliance on communication during a single day, which could be affected by or and events occurring at a single day (Laurenceau & Bolger, 2005). As such, this data decision circumvented the need to control for specific events occurring on each of the days.

#### Covariates

Due to differences in timelines between methodological samples, I cleaned and updated covariates. To account for different timelines between the original and reintegration samples, I calculated values for individual age, relationship length, and number of children that were accurate at T1. To avoid discrepancies in timing of T0 waves between samples, auxiliary time variables were used to create variables accurate for T1. These updated T1 variables were reported in all tables and models in this document.

Missing data in covariates was examined. Overall, most covariates were not missing data. In the cases that values were missing, either reports from partners or individual reports from other waves were used. Individual age was missing for 5.56% of service members but not for significant others. I was unable to recover values for service member age as this information was only collected once at T0. Individual education was missing for 7 service members (12.96%) and 9 significant others (16.67%). Individuals' reports of education at an earlier wave were imputed to create cleaned education variables with no missing values. Deployment length was missing for 12.96% of couples and time since return was missing for 5.56% of couples. This missingness was

attributed to missing values on service members' deployment leave and return dates which I was unable to recover. Service member rank at T1 was missing for 3.70% couples, but I was able to recover all values from reports at T0. After data cleaning, service members' age, deployment length, and time since return were missing between 5.56% and 12.96% of values. There were no missing values on significant other's reports of relationship length and number of children, service members' education and rank, now were there any values missing for either partners' relationship happiness or T1 role negotiations.

### **Potential Attrition Bias**

Sample shrinkage in longitudinal studies can have significant effects on generalizability of findings. For example, research has shown that individuals with higher education, better health, and more social capital are more likely to continue participating in longitudinal research studies (Radler & Ryff, 2010). Thus, it is possible that healthier, more established couples continued participating in the present study. If such trends exist in this data, generalizability of findings may be limited (Graham, 2009). As reported in Table 1, a large majority of couples were excluded from the present study's sample, largely attributed to eligibility for the T2 daily data burst. Of the 176 deployed couples who participated in a T1 field interview, 105 (60%) were *ineligible* to participate in the T2 daily data burst, 54 couples (31%) participated in all three waves, and 17 (9%) were lost due to attrition

Prior to analyses, I examined whether there were systematic differences in couples were not included in the present sample (69%) and those who were included (31%). I ran a series of independent-samples t-tests (for continuous variables) and chi-square tests of independence (for categorical variables). First, I examined whether there were differences between couples who participated in the T2 daily data bursts and those who did not (excluding those who were ineligible for the data bursts). Next, I examined potential differences in couples who participated in all three waves and those who dropped after T1 or T2 waves. Finally, within the sample retained for the present study, I compared couples in the original sample with those in the reintegration sample. This step was examined whether there were systematic differences between samples that needed to be addressed in the models. These tests compared couples on a variety of baseline demographic and key study variables (e.g., established communication patterns, role negotiations); significant differences were evaluated using  $p < .05$ .



### **Data and Assumption Checks**

Data were checked to confirm that assumptions of path analysis were met. Univariate descriptive statistics were checked to confirm normal distribution of variables. For each variable, minimum, maximum, mean, standard deviation statistics were evaluated to confirm logical ranges and values. Skew and kurtosis values were evaluated using the cut-off of  $\pm 1$ , though this evaluation of skew and kurtosis values is not completely diagnostic (Rayner, Best, & Mathews, 1995). Bivariate associations were checked using the strength and direction of Pearson product-moment correlation coefficients. Scatter plots between predictor and outcome variables were evaluated to confirm linearity of predicted associations. Multicollinearity in T1 established pattern variables was also evaluated. Multicollinearity is present when predictors are highly correlated and can create biased standard errors or parameters (Iacobucci, Schneider, Popovich, & Bakamitsos, 2016). To decrease potential multicollinearity, T1 established communication patterns were mean-centered, and all endogenous variables were allowed to correlate in each model. The use of bootstrapping procedures addressed issues that arise when path analysis assumptions are violated. For example, the use of bootstrapping addresses such issues of non-normal distributions in data, especially with regard to distribution of indirect effects (Kline, 2016).

### **Hypothesis Testing**

Path analyses were run in Stata 15.1 (StataCorp, 2017). Path analysis is an extension of multiple regression that simultaneously evaluates regression equations in accordance with a predetermined path diagram. The coefficient for each path (indicated by a single-headed arrow) is evaluated after controlling for other variables in the model. In path analysis, independent variables are referred to as exogenous whereas dependent variables are referred to as endogenous. Path analysis accounts for error in endogenous variables by modeling a residual error term. In contrast to structural equation modeling, path analysis utilizes observed, rather than latent, variables. Though path analysis has traditionally been used to test causal hypotheses, it is important to note that path analyses do not imply causality as there could be multiple, alternative models that fit the data well.

Path analysis is useful in testing mediation models, which test whether associations between endogenous and exogenous variables can be explained by a third variable, the mediator

(Hayes, 2013). Mediation models can be used to answer process-oriented research questions that posit how certain phenomenon occur (Hayes, 2013). Three effects are evaluated in mediation models: direct effects, indirect effects, and total effects. Direct effects are synonymous with a main effect between endogenous and exogenous variables. The indirect effect is a measure of the strength of mediation and is mathematically equivalent to the product of the associations between exogenous-mediator and mediator-endogenous paths. The total effect is the sum of the direct and indirect effects on a single endogenous variable.

Traditionally, the causal steps approach was used to test mediation (Baron & Kenny, 1986) and the Sobel test guided interpretation of the indirect effects. However, modern advancements in mediation theory and statistical capabilities have highlighted weaknesses in these approaches (Hayes, 2009). One such advancement in testing mediation is bootstrapping. Bootstrapping is a nonparametric procedure that estimates standard errors and confidence intervals for both direct and indirect effects (Hayes, 2009). This procedure is especially useful when the distributions of variables or indirect effects are not normally distributed or are not known (Kline, 2016). Bootstrapping is a method that treats the sample size as the population and randomly resamples observations (with replacement) a specified number of times (Hayes, 2013). This resampling allows for the estimation of less-biased standard errors and provides confidence intervals around the parameters.

The number of bootstrap reiterations was set to 2,000, which aligns with recommendations provided by Hayes (2013). To run bootstrapping in Stata, covariates must predict both the mediating and endogenous variables (StataCorp, 2017). Models were estimated using maximum likelihood with missing values to account for small levels of missing covariates. Standardized beta coefficients for direct and indirect effects were evaluated using  $p < .05$  as a cut-off and whether the 95% confidence interval included zero. R-squared ( $R^2$ ) coefficients were evaluated to represent the amount of variance in T2 daily communication and T3 role negotiations that was accounted for by all exogenous variables in the model (Cohen, Cohen, West, & Aiken, 2003).

Research questions were evaluated in four versions of each model to discern contributions of covariates. Each model was first estimated as an unconditional model (version A), where substantive exogenous variables (i.e., T1 established patterns and T2 daily communication strategies) predicted T3 role negotiations. Covariates were then added for three conditional models. Version B included the originally-proposed covariates that were derived from the

literature. Version C included the originally-proposed covariates with the addition of combat exposure in response to the findings from the attrition results (see Results section). The fourth model addressed concerns about being underpowered due to number of covariates and sample size. Version D thus included only the covariates that were significant in any model (i.e., T1 role negotiations, T1 relationship happiness, relationship length) and combat exposure.

### **Research question one: Established communication patterns**

The first research question asked, “what is the role of established communication patterns in role negotiations during reintegration?”

#### ***Hypotheses 1a and 1b: Within-person established patterns***

The first hypothesis examined within-person effects, predicting that individuals’ T1 established communication patterns (i.e., problem solving and withdrawal) would predict their own role negotiations at T3. More specifically, I expected that individuals’ T1 problem solving patterns would positively predict their perceptions of their own role negotiations at T3 (Hypothesis 1a). Alternatively, I expected that individuals’ use of withdrawal at T1 would be negatively associated with later T3 role negotiations. Models 1 (service members) and 2 (significant others) tested these hypotheses. In both models, individuals’ T1 problem solving and withdrawal were treated as exogenous variables whereas individuals’ T3 role negotiations were modeled as endogenous variables. Within the conditional models, each individuals’ covariates were exogenous variables and predicted only T3 role negotiations. Full support of Hypothesis 1a occurred when the standardized coefficient ( $\beta$ ) for individuals’ problem solving was positive and statistically significant. Full support of Hypothesis 1b was evidenced by a negative and statistically significant standardized coefficient ( $\beta$ ).

#### ***Hypotheses 2a and 2b: Between-partners established patterns***

The second hypothesis evaluated between-person effects. I expected that individuals’ established communication patterns (i.e., problem solving and withdrawal) at T1 would predict their *partners’* role negotiations at T3. Similar to the first set of hypotheses, these hypotheses predicted that individuals’ problem solving would positively predict (H2a) and withdrawal would

negatively predict (H2b) their partners' T3 role negotiations. Models 3 and 4 addressed this set of hypotheses. In Model 3, significant others' T1 problem solving and withdrawal patterns were exogenous and predicted service members' T3 role negotiations. The conditional models included service members' covariates as exogenous predictors of their own T3 role negotiations. Model 4 predicted significant others' T3 role negotiations from service members' T1 established patterns. Only significant others' covariates were included as exogenous predictors of their own T3 role negotiations. Hypothesis 2a were supported if individuals' T1 problem solving had a positive effect on their partners' T3 functioning. Conversely, support for Hypothesis 2b was found if there was a negative association between individuals' T1 withdrawal and their partners' T3 role negotiations.

### **Research question two: Daily communication**

Guided by the family resilience framework (Walsh, 2016b), the second research question examined whether daily communication was a mechanism of successful role negotiations during reintegration. Formally, this research question asked, "to what extent do daily communication strategies mediate the relationship between established communication patterns and role negotiations?" The use of mediation models was advantageous as it allowed me to test whether communication processes were a potential mechanism contributing to family resilience (Walsh, 2016b). The indirect effect reflects the magnitude that daily communication strategies is a mechanism through which individuals negotiate roles during reintegration. The total effect indicates the full effect of established communication patterns and daily communication strategies on individuals' role negotiations.

### ***Hypotheses 3a and 3b: Within-person daily communication***

The third hypothesis evaluated within-person mediation. Hypotheses 3a and 3b expected that associations between individuals' T1 established communication patterns (i.e., problem solving and withdrawal) and their T3 role negotiations would be mediated by their own daily communication strategies at T2. Model 5, an extension of Model 1, tested whether service members' T1 problem solving and withdrawal patterns were associated with their T3 role negotiations through their own T2 daily communication strategies. T1 established patterns were

treated as exogenous variables on both T2 daily communication strategies and T3 role negotiations. A path was modeled between service members' T2 daily communication strategies and T3 role negotiations. In the conditional models, exogenous service member covariates predicted both T2 daily communication and T3 role negotiations. Similarly, Model 6 tested the mediating role of significant others' T2 daily communication strategies in associations between their T1 established patterns and T3 role negotiations. T1 established patterns were exogenous variables, T2 daily communications was the mediating variable, and significant others' T3 role negotiations was the endogenous outcome. Again, significant others' covariates were modeled on both their T2 daily communication strategies and T3 role negotiations. Full support of Hypothesis 3a was evidenced by a significant and positive indirect effect between individuals' T1 problem solving, T2 daily communication, and T3 role negotiations. Support for Hypothesis 3b was evidenced by a negative and statistically significant indirect effect between individuals' T1 withdrawal and their T3 role negotiations through their use of daily communication strategies at T2.

#### ***Hypotheses 4a and 4b: Between-partners daily communication***

Finally, I examined whether mediation was present between partners. I expected that individuals' T1 established patterns would be associated with their partners' T2 daily communication, and this daily communication would be subsequently related to their partners' T3 role negotiations. Hypothesis 4a predicted that the indirect effect between T1 problem solving and T3 role negotiations would be positive; Hypothesis 4b predicted that the indirect effect between T1 withdrawal and T3 role negotiations would be negative. I tested these expectations using Models 7 and 8. Model 7 included significant others' T1 established communication patterns as exogenous variables, and service members' T2 daily communication and T3 role negotiations as endogenous variables. Service members' covariates predicted their own T2 daily communication and T3 role negotiations. Lastly, Model 8 predicted significant others' T3 role negotiations from service members' T1 established communication patterns and significant others' T2 daily communication. Significant others' covariates were added for the conditional models and predicted significant others' T2 and T3 variables. Full support of Hypothesis 4a was found if there was a significant indirect effect from individuals' T1 problem solving to partners' T2 daily communication and partners' subsequent T3 role negotiations. Hypothesis 4b was

supported if there was a statistically significant negative indirect effect between individuals' T1 withdrawal, partners' T2 daily communication, and partners' T3 role negotiations.

## RESULTS

### Potential Attrition Bias

A series of independent-samples t-tests and chi-square tests of independence were run to examine potential sources of attrition-related bias in the present sample. Results from each comparison are presented in Table 3. First, I examined attrition between T1 and T2, utilizing the sample of couples eligible to participate in the data bursts ( $n = 71$ ). Within this subsample, 59 couples participated and 12 did not. Two significant differences emerged between these groups. Couples differed with regard to service members' recent combat exposure. Whereas 60% of those who remained in the study experienced recent combat exposure, 100% of the couples who did not participate in T2 daily data bursts had service members who experienced combat,  $\chi^2(1, N = 70) = 6.81, p < .01$ . Significant others' T1 problem solving also predicted attrition: couples who did not participate in the T2 daily phone calls reported less problem-solving behaviors ( $M = 3.47, SD = 0.57$ ) relative to those who remained in the study ( $M = 3.89, SD = 0.58$ ),  $t(66) = -2.01, p < .05$ .

Next, I examined attrition between T1 and T3, utilizing the sample of deployed couples at T1 ( $N = 176$ ). Within this subsample, 55 completed all three waves, whereas 121 left the study at some point. Three significant differences emerged. Significant others' T1 role negotiations significantly predicted attrition,  $t(171) = -2.91, p < .01$ . Specifically, couples who left the study had significant others who reported more difficult T1 role negotiations ( $M = 3.50, SD = 0.70$ ) than those who continued in the study ( $M = 3.83, SD = 0.66$ ). Significant others' relationship happiness also predicted attrition,  $t(170) = -2.01, p < .05$ , such that significant others who reported lower levels of relationship happiness ( $M = 7.80, SD = 1.97$ ) were disproportionately more likely to leave the study, relative to those who remained ( $M = 8.40, SD = 1.45$ ). Again, service members' combat exposure distinguished those who left the study and those who remained,  $\chi^2(1, N = 174) = 9.78, p < .01$ .

Finally, I examined how couples in original and reintegration samples differed from each other. Results indicated that there were no statistical differences between samples. In sum, service members' combat exposure, and significant others' relationship happiness, T1 role negotiations, and problem solving all predicted couples' (non)participation in the study.

Table 3. *Potential Sources of Attrition as Evidence by Differences between Subgroups*

	<b>T2 participation (N = 71)<sup>a</sup></b>		<b>All three waves (N = 176)<sup>b</sup></b>		<b>Methodological samples (N = 54)<sup>c</sup></b>	
	Participated (n = 59)	Attrited (n = 12)	Participated (n = 55)	Attrited (n = 121)	Original (n = 48)	Reintegration (n = 6)
SM age, <i>M</i> ( <i>SD</i> )	34.01 (8.84)	34.78 (8.35)	33.90 (8.97)	34.06 (8.29)	33.50 (9.28)	35.83 (7.25)
SO age, <i>M</i> ( <i>SD</i> )	31.87 (8.44)	33.02 (9.70)	32.16 (8.25)	32.23 (8.29)	32.10 (8.55)	31.50 (6.19)
SM race (%)						
White	81.10	70.00	80.40	90.60	79.50	83.30
African American	9.40	10.00	9.80	2.60	9.10	16.70
Asian	1.90	10.00	2.00	1.70	2.30	0.00
Other/Multiple races <sup>d</sup>	7.50	10.00	7.80	5.10	9.10	0.00
SO race (%)						
White	84.70	83.30	83.60	95.00	85.40	66.70
African American	6.80	8.30	7.30	1.70	6.30	16.70
Asian	3.40	8.30	3.60	0.80	2.10	16.70
Other/Multiple races <sup>d</sup>	5.10	0.00	5.50	2.50	6.30	0.00
SM education (%)						
High school diploma	20.30	0.00	18.20	18.20	20.80	0.00
Technical certificate	0.00	0.00	0.00	2.50	0.00	0.00
Some college	37.30	54.50	38.20	34.70	37.50	50.00
Associate degree	8.50	9.10	7.30	6.60	8.30	0.00
Bachelor's degree	18.60	25.30	20.00	28.10	14.60	50.00
Graduate degree	15.30	9.10	16.40	9.90	18.80	0.00
SO education (%)						
High school diploma	16.90	8.30	16.40	10.80	18.80	0.00
Technical certificate	5.10	25.00	5.50	7.40	6.30	0.00
Some college	27.10	25.00	25.50	28.10	27.10	16.70
Associate degree	16.90	0.00	18.20	12.40	18.80	16.70



Table 3. *Continued*

Bachelor's degree	28.80	33.30	29.10	30.60	22.90	66.70
Graduate degree	5.10	8.30	5.50	10.70	6.30	0.00
Rel. length yrs., <i>M (SD)</i>	9.17 (5.77)	6.77 (3.21)	9.30 (5.76)	9.24 (6.40)	9.59 (5.99)	6.67 (3.39)
Number of children, <i>M (SD)</i>	1.81 (1.28)	2.00 (1.60)	1.85 (1.31)	1.76 (1.17)	1.96 (1.34)	1.17 (0.98)
SM rank (%)						
Enlisted	79.70	63.60	78.20	72.30	77.10	83.30
Officer	20.30	36.40	21.80	27.70	22.90	16.70
SM career deployments (%)						
None	49.20	50.00	49.10	47.10	52.10	33.30
One	28.80	33.30	29.10	31.40	29.20	16.70
Two	13.60	0.00	14.50	16.50	10.40	50.00
Three or more	8.50	16.70	7.30	5.00	8.30	0.00
Recent combat exposure (%)	<b>** p &lt; .01</b>		<b>** p &lt; .01</b>			
No combat exposure	40.70	0.00	41.80	19.30	41.70	33.30
Some combat exposure	59.30	100.00	58.20	80.70	58.30	66.70
Dep. length mos., <i>M (SD)</i>	10.19 (3.55)	10.01 (1.80)	10.15 (3.66)	10.05 (1.77)	9.23 (1.88)	10.44 (1.01)
Time return wks., <i>M (SD)</i>	9.78 (13.00)	13.68 (7.41)	9.87 (13.36)	9.62 (6.25)	11.98 (7.03)	11.24 (7.93)
T1 SM role negot., <i>M (SD)</i>	3.78 (0.71)	3.70 (0.65)	3.80 (0.69)	3.67 (0.66)	3.86 (0.65)	3.64 (0.75)
T1 SO role negot., <i>M (SD)</i>	3.78 (0.73)	3.42 (0.66)	<b>3.83 (0.66)**</b>	<b>3.50 (0.70)</b>	3.85 (0.70)	3.76 (0.28)
T1 SM RelHap, <i>M (SD)</i>	8.48 (1.43)	7.80 (1.14)	8.51 (1.45)	8.07 (1.68)	8.69 (1.19)	8.00 (1.67)
T1 SO RelHap, <i>M (SD)</i>	8.25 (1.71)	7.44 (1.51)	<b>8.40 (1.45)*</b>	<b>7.80 (1.97)</b>	8.44 (1.50)	8.33 (1.03)
T1 SM prob. solve, <i>M (SD)</i>	3.83 (0.64)	3.70 (0.56)	3.82 (0.66)	3.85 (0.57)	3.85 (0.64)	3.67 (0.75)
T1 SM withdrawal, <i>M (SD)</i>	2.00 (0.80)	2.08 (0.88)	1.99 (0.81)	2.04 (0.81)	1.94 (0.83)	2.17 (0.61)
T1 SO prob. solve, <i>M (SD)</i>	<b>3.89 (0.58)*</b>	<b>3.47 (0.57)</b>	3.89 (0.57)	3.77 (0.62)	3.92 (0.60)	3.71 (0.25)
T1 SO withdrawal, <i>M (SD)</i>	2.16 (0.77)	2.47 (0.62)	2.11 (0.69)	2.09 (0.80)	2.08 (0.67)	2.46 (0.80)
T2 SM daily comm, <i>M (SD)</i>					4.26 (0.50)	3.80 (0.93)
T2 SO daily comm, <i>M (SD)</i>					4.28 (0.50)	3.84 (0.64)

Table 3. *Continued*

T3 SM role negot., <i>M (SD)</i>	3.79 (0.68)	3.38 (0.72)
T3 SO role negot., <i>M (SD)</i>	3.67 (0.63)	3.63 (0.48)

*Note.* <sup>a</sup>Step 1: Among couples eligible for T2 daily data burst, do T2 participators and non-participators differ? <sup>b</sup>Step 2: Do couples who participated in all three waves differ from those who did not? <sup>c</sup>Step 3: Do original and reintegration samples differ? <sup>d</sup>Includes American Indian or Alaska Native, and Spanish/Hispanic/Latino. SM = Service member; SO = Significant other; Rel. length = Relationship length; Dep length = deployment length; Time return = Time since SM returned; Role negot. = Role negotiations; RelHap = Relationship happiness;  
<sup>\*</sup>*p* < .05. <sup>\*\*</sup>*p* < .01. <sup>\*\*\*</sup>*p* < .001. Decimals rounded to nearest tenth.

## Descriptive Statistics

### Univariate data

Descriptive statistics for predictors, mediators, outcomes, and covariates are presented in Table 4. Data were checked to confirm normal distributions. Raw distributions of service members' variables indicated minor kurtosis for T1 withdrawal (Kurtosis = -1.19) and T2 daily communication (Kurtosis = 1.75). Significant others' T1 withdrawal also indicated minor kurtosis (Kurtosis = 1.16). Many covariates indicated levels of skew and kurtosis greater than +/- 1. The use of bootstrapping procedures addressed the non-normality of these distributions (Kline, 2016).

With regard to outcome variables, service members and significant others reported similar levels of ease in role negotiations at T1,  $t(53) = -0.02, p = \text{n.s.}$  and T3,  $t(53) = 0.83, p = \text{n.s.}$  Across time, service members' perceptions of role negotiations did not change,  $t(52) = 1.51, p = \text{n.s.}$ , but significant others perceived less ease over time  $t(52) = 2.24, p = .03$ . At the item level (Table A2), the item "reunion with family" was consistently reported as the easiest role negotiation, while there was more variability within other domains. Descriptive statistics for established patterns reflected that service members and significant others did not differ in their reports of T1 problem solving,  $t(53) = -0.57, p = \text{n.s.}$ , or T1 withdrawal,  $t(53) = -1.07, p = \text{n.s.}$  On average, participants reported high levels of T1 problem solving (3.83 out of 5 for service members; 3.88 out of 5 for significant others) and low levels of T1 withdrawal during conflicts (1.97 out of 5 for service members; 2.00 out of 5 for significant others). Individual item values for T1 established patterns are presented in Table A3. At the daily level, service members and significant others did not differ in reporting high levels of competent communication,  $t(53) = -0.22, p = \text{n.s.}$  On a scale from 1 to 5, the daily communication strategy means were high, ranging from 4.03 (Day 1) to 4.36 (Day 4) for service members and 4.16 (Day 1) to 4.40 (Day 4) for significant others, as evidenced by Table A5.

Table 4. *Descriptive Statistics for Predictor, Mediator, Outcome Variables, and Covariates*

	Service Members ( <i>n</i> = 54)						Significant Others ( <i>n</i> = 54)					
	<i>M</i> ( <i>SD</i> )	<i>Med.</i>	<i>Min.</i>	<i>Max</i>	<i>Skew</i> ( <i>SE</i> )	<i>Kurtosis</i> ( <i>SE</i> )	<i>M</i> ( <i>SD</i> )	<i>Med.</i>	<i>Min.</i>	<i>Max</i>	<i>Skew</i> ( <i>SE</i> )	<i>Kurtosis</i> ( <i>SE</i> )
<b>Substantive</b>												
T1 problem solving	3.83 (0.65)	3.75	2.25	5.00	-0.15 (.33)	-0.30 (.64)	3.89 (0.58)	3.88	2.50	5.00	-0.18 (.33)	0.59 (.64)
T1 withdrawal	1.97 (0.80)	2.00	1.00	3.50	0.31 (.33)	-1.19 (.64)	2.13 (0.69)	2.00	1.00	4.75	1.16 (.33)	2.83 (.64)
T2 daily comm.	4.21 (0.57)	4.25	2.15	5.00	-0.94 (.33)	1.75 (.64)	4.23 (0.53)	4.30	3.00	5.00	-0.34 (.33)	-0.69 (.64)
T3 role negotiations	3.74 (0.69)	3.56	2.22	5.00	0.20 (.33)	-0.29 (.64)	3.67 (0.61)	3.67	2.44	5.00	0.04 (.33)	-0.30 (.64)
<b>Covariates</b>												
Age (yrs.)	33.78 (9.03)	32.19	21.00	58.71	1.01 (.33)	0.46 (.66)	32.03 (8.28)	30.26	19.99	55.25	1.14 (.33)	0.85 (.64)
Education <sup>a</sup>	3.57 (1.67)	3.00	1.00	6.00	-0.07 (.33)	-1.01 (.64)	3.52 (1.51)	4.00	1.00	6.00	-0.34 (.33)	-0.90 (.64)
T1 role negotiations	3.83 (0.66)	3.83	2.63	5.00	0.07 (.33)	-0.84 (.64)	3.84 (0.66)	3.78	2.22	5.00	-0.34 (.33)	-0.21 (.64)
T1 RelHap	8.61 (1.25)	9.00	5.00	10.00	-0.83 (.33)	0.29 (.64)	8.43 (1.45)	9.00	5.00	10.00	-0.72 (.33)	-0.20 (.64)
Dep. length (mos.) <sup>b</sup>	9.39 (1.83)	9.86	3.19	11.53	-1.60 (.35)	3.89 (.68)	—	—	—	—	—	—
Time return (wks.) <sup>b</sup>	11.89 (7.06)	9.86	1.14	31.29	0.48 (.33)	-0.54 (.66)	—	—	—	—	—	—
Rank <sup>b,c</sup>	0.78 (0.42)	1.00	0.00	1.00	-1.38 (.33)	-0.12 (.64)	—	—	—	—	—	—
Combat exposure <sup>b</sup>	1.63 (2.10)	1.00	0.00	7.00	1.40 (.33)	0.89 (.64)	—	—	—	—	—	—
Rel. length (yrs.) <sup>d</sup>	—	—	—	—	—	—	9.27 (5.81)	7.60	2.26	26.02	1.31 (.33)	1.34 (.64)
No. children <sup>d</sup>	—	—	—	—	—	—	1.87 (1.32)	2.00	0.00	5.00	0.30 (.33)	-0.70 (.64)

*Note.* <sup>a</sup> Higher values indicate greater educational attainment. <sup>b</sup> Service member reports. If missing, used significant other reports. <sup>c</sup> Rank coded 0 = Officer and 1 = Enlisted. <sup>d</sup> Significant other reports. If missing, used service member reports. RelHap = Relationship happiness; Dep length = Deployment length; Time return = Time since SM return home.

## Bivariate correlations

Bivariate correlations are presented in Table 5. Within service members, study variables were significantly correlated in the hypothesized directions. At T1, service members' use of greater problem solving was associated with less tendencies to withdraw ( $r = -.64, p < .001$ ). Across time, service members' T1 problem solving was associated with more competent T2 daily communication ( $r = .55, p < .001$ ) and easier T3 role negotiations ( $r = .53, p < .001$ ). Similarly, service members' T1 withdrawal was negatively correlated with T2 daily communication ( $r = -.47, p < .001$ ) and T3 role negotiations ( $r = -.41, p < .01$ ). There was a moderate correlation between service members' competent T2 daily communication and easier T3 role negotiations ( $r = .46, p < .001$ ).

Within significant others, correlations were weaker although still in the expected direction. At T1, significant others' greater use of problem solving was associated with less withdrawal ( $r = -.31, p < .05$ ). Across time, T1 problem solving was positively correlated with T2 daily communication ( $r = .36, p < .01$ ), while T1 withdrawal was negatively correlated with daily communication ( $r = -.30, p < .05$ ). Dissimilar to service members, significant others' T1 established patterns were *not* significantly correlated with their own T3 role negotiations. However, significant others' greater use of competent T2 daily communication was associated with easier T3 role negotiations ( $r = .34, p < .05$ ).

Between partners, service members' and significant others' T1 established patterns were not significantly correlated with each other. However, at T2, service members' and significant others' daily communications were significantly correlated ( $r = .46, p < .001$ ). At T3, there was a moderate positive correlation between service members' and significant others' role negotiations ( $r = .54, p < .001$ ). Across time, service members' greater use of problem solving T1 was associated with more competent T2 daily communication for significant others ( $r = .31, p < .05$ ). Significant others' competent T2 daily communication was associated with easier T3 role negotiations for service members ( $r = .32, p < .05$ ).

Covariates that were included in Version D of the models are discussed in text; all other covariates can be found in Table 5. These covariates were significant predictors of the outcome variables in the path analyses, as well as combat exposure. Service members' T1 role negotiations was significantly associated with many substantive variables: service members' T1 problem solving ( $r = .52, p < .001$ ) and T1 withdrawal ( $r = -.52, p < .001$ ); service members' ( $r = .48, p <$

.001) and significant others' ( $r = .34, p < .01$ ) T2 daily communications; and service members' ( $r = .67, p < .001$ ) and significant others' ( $r = .39, p < .01$ ) T3 role negotiations. In contrast, significant others' T1 role negotiations were correlated with only two variables: their own T2 daily communications ( $r = .40, p < .01$ ) and T3 role negotiations ( $r = .57, p < .001$ ). Similar patterns emerged for both partners' T1 relationship happiness. Specifically, service members' T1 relationship happiness was associated with their own T1 problem solving ( $r = .57, p < .001$ ) and T1 withdrawal ( $r = -.49, p < .001$ ); service members' ( $r = .69, p < .001$ ) and significant others' ( $r = .38, p < .01$ ) T2 daily communications; and their own ( $r = .52, p < .001$ ) and their partners' ( $r = .38, p < .01$ ) T3 role negotiations. Significant others' T1 relationship happiness was only correlated with their own T1 withdrawal ( $r = -.37, p < .01$ ) and T3 role negotiations ( $r = .41, p < .01$ ). The longer the relationship length was associated with easier role negotiations for significant others ( $r = .41, p < .01$ ). Combat exposure was not correlated with any substantive variables.

Table 5. *Correlations Between Predictors, Mediators, Outcomes, and Covariates (N = 54 couples)*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. SM age	—															
2. SO age	<b>.89<sup>a</sup></b>	—														
3. SM race	-.22	-.19	—													
4. SO race	-.02	.09	.09	—												
5. SM edu.	<b>.28<sup>a</sup></b>	<b>.33<sup>b</sup></b>	-.12	.01	—											
6. SO edu.	.19	.22	-.13	-.09	<b>.41<sup>a</sup></b>	—										
7. T1 SM RN	-.26	-.08	-.26	-.13	<b>.27<sup>a</sup></b>	.10	—									
8. T1 SO RN	.20	<b>.29<sup>a</sup></b>	-.13	-.13	.04	-.04	<b>.36<sup>b</sup></b>	—								
9. SM RelHap	.06	.17	-.23	-.12	.15	-.11	<b>.50<sup>c</sup></b>	<b>.31<sup>a</sup></b>	—							
10. SO RelHap	.17	.17	-.22	-.18	.08	.16	.22	<b>.57<sup>c</sup></b>	<b>.28<sup>a</sup></b>	—						
11. Rel Length	<b>.53<sup>c</sup></b>	<b>.57<sup>c</sup></b>	-.23	-.08	<b>.26<sup>a</sup></b>	.07	.15	.16	.06	.08	—					
12. # children	.09	.18	.07	.03	.01	<b>-.40<sup>b</sup></b>	-.11	-.02	.03	-.16	<b>.28<sup>a</sup></b>	—				
13. Dep length	-.25	-.26	.20	.02	-.04	.07	.01	.05	-.02	-.12	<b>-.37<sup>a</sup></b>	-.11	—			
14. Time return	-.01	.02	.09	-.09	<b>-.34<sup>a</sup></b>	<b>-.30<sup>a</sup></b>	-.17	.04	-.02	-.20	.04	.11	-.24	—		
15. SM rank	-.17	-.24	.11	-.01	<b>-.62<sup>c</sup></b>	<b>-.29<sup>a</sup></b>	-.26	-.08	-.02	-.15	<b>-.32<sup>a</sup></b>	-.16	-.14	.11	—	
16. SM combat	-.12	-.08	-.17	-.14	.05	.20	.05	-.07	.23	.12	.09	.00	.01	-.13	.01	—
<b>Predictors (T1)</b>																
17. SM PS	-.05	.08	.12	-.08	<b>.30<sup>a</sup></b>	.08	<b>.52<sup>c</sup></b>	.23	<b>.57<sup>c</sup></b>	.20	.03	-.02	.11	.00	<b>-.35<sup>a</sup></b>	.16
18. SM W	.00	-.15	.22	.06	<b>-.36<sup>b</sup></b>	-.24	<b>-.52<sup>c</sup></b>	-.21	<b>-.49<sup>c</sup></b>	-.16	-.03	.07	-.06	<b>.30<sup>a</sup></b>	<b>.27<sup>a</sup></b>	-.17
19. SO PS	-.17	-.13	.25	.17	-.10	-.14	.01	.16	-.02	.22	-.25	.01	.09	.06	-.10	.08
20. SO W	.13	.11	-.18	.06	<b>.38<sup>b</sup></b>	.14	-.05	-.27	-.07	<b>-.37<sup>b</sup></b>	.06	.10	.01	-.12	.03	.04
<b>Mediators (T2)</b>																
21. SM daily	-.14	-.01	-.12	.05	.08	-.14	<b>.48<sup>c</sup></b>	.24	<b>.69<sup>c</sup></b>	.15	-.03	.00	.09	.12	-.08	.17
22. SO daily	-.01	-.01	.15	-.07	-.03	-.10	<b>.34<sup>a</sup></b>	<b>.40<sup>b</sup></b>	<b>.38<sup>b</sup></b>	.24	.01	.03	.08	.21	-.11	-.16
<b>Outcomes (T3)</b>																
23. SM RN	-.10	.06	-.02	-.05	.17	-.01	<b>.67<sup>c</sup></b>	.25	<b>.52<sup>c</sup></b>	.05	.34	.01	.07	.05	<b>-.28<sup>a</sup></b>	.17
24. SO RN	.19	<b>.28<sup>a</sup></b>	-.02	-.01	.13	.01	<b>.39<sup>b</sup></b>	<b>.57<sup>c</sup></b>	<b>.38<sup>b</sup></b>	<b>.41<sup>b</sup></b>	<b>.41<sup>b</sup></b>	-.01	-.03	.11	<b>-.29<sup>a</sup></b>	.02
<b>Post hoc</b>																
25. Demo risk	<b>-.29<sup>a</sup></b>	<b>-.31<sup>a</sup></b>	.17	.06	<b>-.75<sup>c</sup></b>	<b>-.63<sup>c</sup></b>	<b>-.28<sup>a</sup></b>	-.06	-.01	-.17	<b>-.39<sup>b</sup></b>	.25	.08	.17	<b>.66</b>	-.03

Table 5. *Continued*

	17	18	19	20	21	22	23	24
<b>Predictors (T1)</b>								
17. SM PS	—							
18. SM W	<b>-.64<sup>c</sup></b>	—						
19. SO PS	.20	.03	—					
20. SO W	-.14	-.03	<b>-.31<sup>a</sup></b>	—				
<b>Mediators (T2)</b>								
21. SM daily	<b>.55<sup>c</sup></b>	<b>-.47<sup>c</sup></b>	.13	-.04	—			
22. SO daily	<b>.31<sup>a</sup></b>	-.03	<b>.36<sup>b</sup></b>	<b>-.30<sup>a</sup></b>	<b>.46<sup>c</sup></b>	—		
<b>Outcomes (T3)</b>								
23. SM RN	<b>.53<sup>c</sup></b>	<b>-.41<sup>b</sup></b>	-.18	-.07	<b>.46<sup>c</sup></b>	<b>.32<sup>a</sup></b>	—	
24. SO RN	.27	-.24	-.09	-.24	.18	<b>.34<sup>a</sup></b>	<b>.54<sup>c</sup></b>	—
<b>Post hoc</b>								
25. Demo risk	<b>-.33<sup>a</sup></b>	<b>.32<sup>a</sup></b>	.01	-.15	.07	.05	-.23	-.22

*Note.* SM = Service member; SO = Significant other; Edu = Education; RN = Role negotiations; RelHap = Relationship happiness; Rel length = Relationship length (years); Dep length = Deployment length (months); Time return = Time since SM return home (weeks); PS = Problem solving established pattern; W = withdrawal established pattern; Daily = Daily communication competency; Demo risk = demographic risk variable.

Significant correlations in **bold**; <sup>a</sup> $p < .05$ . <sup>b</sup> $p < .01$ . <sup>c</sup> $p < .001$ .



## Research Question One

The first research question examined associations between established communication patterns and role negotiations during reintegration. Four versions of each model were run as described in the Analytic Strategy section: a) unconditional, b) conditional with covariates originally proposed, c) conditional with original covariates and combat exposure, and d) conditional with significant covariates and combat exposure.

### Hypotheses 1a and 1b: Within-person established patterns

Model 1 (Table 6) examined associations between service members' T1 established communication patterns and their later T3 role negotiations. The unconditional model (Version A) accounted for 28% of the variance in T3 role negotiations and found that greater use of problem-solving at T1 significantly predicted easier T3 role negotiations ( $\beta = 0.46$ , 95% CI [0.18, 0.74]). After the addition of the covariates in the conditional models (Versions B through D), however, this association was no longer significant. Instead, service members' T1 role negotiations and relationship happiness were significant predictors of later role negotiations. The addition of the covariates in Versions B, C, and D accounted for 66%, 68%, and 61% of the variance in T3 role negotiations, respectively. Across all models, I did not find support for Hypothesis 1b but found partial support for Hypothesis 1a. For service members, earlier role negotiations and relationship happiness were most predictive of easier role negotiations five months later.

Model 2 (Table 7) examined associations between significant others' T1 established communication patterns and their later T3 role negotiations. In contrast to service members, the unconditional model (Version A) found that T1 withdrawal (and not problem solving) significantly predicted T3 role negotiations ( $\beta = -0.29$ , 95% CI [-0.53, -0.05]), such that significant others who withdrew from conflicts reported more difficult role negotiations five months later. However, once covariates were taken into consideration, this association was no longer significant. The addition of covariates in Versions B and C accounted for 54% and 55% of variance in T3 role negotiations variance and was largely attributed to significant others' T1 role negotiations. Two significant predictors emerged in Version D: T1 role negotiations ( $\beta = 0.46$ , 95% CI [0.21, 0.71]) and relationship length ( $\beta = 0.30$ , 95% CI [0.09, 0.51]). Across all models, relationship length had a consistent effect size but was significant only in the final model, Version D. Taken together, I

found partial support of Hypothesis 1b in the unconditional model, but this association disappeared after accounting for T1 role negotiations and relationship length.

### **Hypotheses 2a and 2b: Between-person established patterns**

Model 3 (Table 8) examined associations between significant others' T1 established communication patterns and service members' T3 role negotiations. Neither significant others' T1 problem solving nor withdrawal predicted service members' T3 role negotiations in any version of the model, contrary to hypotheses 2a and 2b. As evidenced by covariate versions, service members' T1 role negotiations, relationship happiness, and relationship length explained a large amount of variance in their own T3 role negotiations.

The final model for the first research question evaluated associations between service members' T1 established communication patterns and significant others' T3 role negotiations (Model 4; Table 9). Similar to Model 3, results from the unconditional model did not support either Hypothesis 2a or 2b: service members' T1 problem solving and withdrawal did not predict significant others' T3 role negotiations. The amount of variance accounted for in significant others' role negotiations increased from 8% in the unconditional model to 47-53% in the conditional models. This variance was accounted for largely by relationship length, which was a significant predictor of significant others' T3 role negotiations across all models. T1 role negotiations was significant only in Versions B and D. Taken together, I did not find evidence that individuals' established communication patterns impacted their partners' later role negotiations.

Table 6. Results for Model 1 Predicting Service Member T3 Role Negotiations from Service Member T1 Established Patterns and Covariates

	1a. Unconditional			1b. Conditional: Original Covariates			1c. Conditional: Original Covariates with Combat			1d. Conditional: Significant Covariates with Combat		
	$\beta$	SE	95% C.I. [LL, UL]	$\beta$	SE	95% C.I. [LL, UL]	$\beta$	SE	95% C.I. [LL, UL]	$\beta$	SE	95% C.I. [LL, UL]
SM T1 Problem Solving	<b>0.46</b>	<b>0.14</b>	<b>[0.18, 0.74]</b>	0.04	0.23	[-0.43, 0.51]	0.02	0.24	[-0.45, 0.50]	0.13	0.17	[-0.20, 0.46]
SM T1 Withdrawal	-0.10	0.16	[-0.40, 0.20]	-0.04	0.16	[-0.35, 0.29]	-0.03	0.17	[-0.37, 0.32]	0.06	0.14	[-0.21, 0.33]
SM T1 Role Negotiations				<b>0.42</b>	<b>0.18</b>	<b>[0.06, 0.77]</b>	<b>0.47</b>	<b>0.19</b>	<b>[0.10, 0.84]</b>	<b>0.49</b>	<b>0.11</b>	<b>[0.27, 0.71]</b>
SM T1 Rel. Happiness				0.30	0.16	[-0.02, 0.62]	0.28	0.18	[-0.08, 0.63]	0.23	0.14	[-0.04, 0.49]
Relationship Length				<b>0.43</b>	<b>0.19</b>	<b>[0.05, 0.80]</b>	<b>0.38</b>	<b>0.19</b>	<b>[0.01, 0.76]</b>	<b>0.26</b>	<b>0.09</b>	<b>[0.09, 0.43]</b>
SM Age				-0.15	0.19	[-0.52, 0.23]	-0.09	0.20	[-0.50, 0.30]			
SM Education				-0.06	0.17	[-0.39, 0.27]	-0.07	0.18	[-0.42, 0.27]			
No. Children				-0.02	0.13	[-0.26, 0.23]	-0.01	0.13	[-0.26, 0.25]			
Dep. Length				0.22	0.19	[-0.15, 0.60]	0.23	0.19	[-0.15, 0.60]			
Time Since Return				0.13	0.14	[-0.14, 0.39]	0.14	0.14	[-0.14, 0.42]			
SM Rank				-0.06	0.19	[-0.43, 0.31]	-0.07	0.20	[-0.45, 0.32]			
SM Combat							0.06	0.12	[-0.18, 0.30]	0.07	0.11	[-0.14, 0.29]
$R^2$		.28			.66			.68			.61	

Note. SM = Service member. Significant associations in **bold**. Standardized coefficients ( $\beta$ ), bootstrapped standard error (SE), and 95% confidence interval (95% C.I.) presented.

Table 7. Results for Model 2 Predicting Significant Other T3 Role Negotiations from Significant Other T1 Established Patterns and Covariates

	2a. Unconditional			2b. Conditional: Original Covariates			2c. Conditional: Original Covariates with Combat			2d. Conditional: Significant Covariates with Combat		
	$\beta$	SE	95% C.I. [LL, UL]	$\beta$	SE	95% C.I. [LL, UL]	$\beta$	SE	95% C.I. [LL, UL]	$\beta$	SE	95% C.I. [LL, UL]
SO T1 Problem Solving	-0.18	0.19	[-0.55, 0.18]	-0.20	0.13	[-0.46, 0.05]	-0.22	0.14	[-0.49, 0.05]	-0.17	0.13	[-0.42, 0.07]
SO T1 Withdrawal	<b>-0.29</b>	<b>0.12</b>	<b>[-0.53, -0.05]</b>	-0.09	0.14	[-0.36, 0.18]	-0.10	0.14	[-0.37, 0.17]	-0.14	0.11	[-0.35, 0.08]
SO T1 Role Negotiations				<b>0.40</b>	<b>0.16</b>	<b>[0.10, 0.71]</b>	<b>0.41</b>	<b>0.16</b>	<b>[0.09, 0.74]</b>	<b>0.46</b>	<b>0.13</b>	<b>[0.21, 0.71]</b>
SO T1 Rel. Happiness Relationship Length				0.19	0.16	[-0.12, 0.51]	0.17	0.18	[-0.17, 0.52]	0.12	0.15	[-0.18, 0.41]
				0.32	0.17	[-0.01, 0.66]	0.30	0.18	[-0.05, 0.64]	<b>0.30</b>	<b>0.11</b>	<b>[0.09, 0.51]</b>
SO Age				-0.04	0.18	[-0.39, 0.31]	-0.02	0.18	[-0.37, 0.34]			
SO Education				-0.11	0.18	[-0.46, 0.25]	-0.14	0.18	[-0.49, 0.22]			
No. Children				-0.10	0.16	[-0.41, 0.20]	-0.11	0.16	[-0.43, 0.21]			
Dep. Length				0.10	0.18	[-0.26, 0.46]	0.09	0.19	[-0.29, 0.46]			
Time Since Return				0.13	0.13	[-0.13, 0.39]	0.13	0.14	[-0.14, 0.40]			
SM Rank				-0.20	0.14	[-0.48, 0.08]	-0.22	0.14	[-0.49, 0.05]			
SM Combat							0.08	0.16	[-0.23, 0.39]	0.05	0.14	[-0.24, 0.33]
$R^2$		.08			.54			.55			.49	

Note. SO = Significant other. Significant associations in **bold**. Standardized coefficients ( $\beta$ ), bootstrapped standard error (SE), and 95% confidence interval (95% C.I.) presented.

Table 8. Results for Model 3 Predicting Service Member T3 Role Negotiations from Significant Other T1 Established Patterns and Service Member Covariates

	3a. Unconditional			3b. Conditional: Original Covariates			3c. Conditional: Original Covariates with Combat			3d. Conditional: Significant Covariates with Combat		
	$\beta$	SE	95% C.I.	$\beta$	SE	95% C.I.	$\beta$	SE	95% C.I.	$\beta$	SE	95% C.I.
SO T1 Problem Solving	-0.22	0.17	[-0.55, 0.12]	-0.16	0.12	[-0.38, 0.06]	-0.19	0.12	[-0.43, 0.05]	-0.17	0.12	[-0.40, 0.06]
SO T1 Withdrawal	-0.13	0.15	[-0.43, 0.16]	-0.03	0.13	[-0.27, 0.22]	-0.04	0.13	[-0.30, 0.22]	-0.08	0.10	[-0.28, 0.11]
SM T1 Role Negotiations				<b>0.45</b>	<b>0.15</b>	<b>[0.15, 0.75]</b>	<b>0.50</b>	<b>0.16</b>	<b>[0.19, 0.82]</b>	<b>0.52</b>	<b>0.10</b>	<b>[0.33, 0.72]</b>
SM T1 Rel. Happiness				<b>0.33</b>	<b>0.13</b>	<b>[0.06, 0.59]</b>	0.28	0.15	[-0.02, 0.57]	<b>0.25</b>	<b>0.10</b>	<b>[0.05, 0.44]</b>
Relationship Length				<b>0.34</b>	<b>0.16</b>	<b>[0.01, 0.66]</b>	0.28	0.16	[-0.04, 0.59]	<b>0.22</b>	<b>0.09</b>	<b>[0.04, 0.40]</b>
SM Age				-0.12	0.16	[-0.44, 0.20]	-0.05	0.17	[-0.39, 0.29]			
SM Education				-0.08	0.20	[-0.47, 0.31]	-0.09	0.21	[-0.50, 0.32]			
No. Children				-0.01	0.12	[-0.22, 0.23]	0.02	0.12	[-0.21, 0.25]			
Dep. Length				0.20	0.17	[-0.14, 0.54]	0.19	0.18	[-0.15, 0.54]			
Time Since Return				0.13	0.13	[-0.13, 0.39]	0.15	0.14	[-0.13, 0.43]			
SM Rank				-0.12	0.19	[-0.49, 0.25]	-0.13	0.19	[-0.51, 0.25]			
SM Combat							0.10	0.11	[-0.13, 0.32]	0.10	0.10	[-0.10, 0.30]
$R^2$	.05			.69			.70			.63		

Note. SM = Service member; SO = Significant other. Significant associations in **bold**. Standardized coefficients ( $\beta$ ), bootstrapped standard error (SE), and 95% confidence interval (95% C.I.) presented.

Table 9. Results for Model 4 Predicting Significant Other T3 Role Negotiations from Service Member T1 Established Patterns and Significant Other Covariates

	4a. Unconditional			4b. Conditional: Original Covariates			4c. Conditional: Original Covariates with Combat			4d. Conditional: Significant Covariates with Combat		
	$\beta$	SE	95% C.I. [LL, UL]	$\beta$	SE	95% C.I. [LL, UL]	$\beta$	SE	95% C.I. [LL, UL]	$\beta$	SE	95% C.I. [LL, UL]
SM T1 Problem Solving	0.20	0.16	[-0.12, 0.51]	-0.07	0.15	[-0.36, 0.22]	-0.07	0.15	[-0.36, 0.23]	0.06	0.12	[-0.18, 0.31]
SM T1 Withdrawal	-0.11	0.17	[-0.42, 0.22]	-0.21	0.16	[-0.53, 0.10]	-0.21	0.17	[-0.54, 0.12]	-0.09	0.14	[-0.35, 0.18]
SO T1 Role Negotiations				<b>0.34</b>	<b>0.16</b>	<b>[0.02, 0.66]</b>	0.34	0.18	[-0.01, 0.69]	<b>0.41</b>	<b>0.14</b>	<b>[0.14, 0.69]</b>
SO T1 Rel. Happiness				0.22	0.16	[-0.10, 0.53]	0.21	0.18	[-0.13, 0.56]	0.13	0.16	[-0.18, 0.44]
Relationship Length				<b>0.43</b>	<b>0.17</b>	<b>[0.11, 0.76]</b>	<b>0.43</b>	<b>0.17</b>	<b>[0.10, 0.77]</b>	<b>0.34</b>	<b>0.09</b>	<b>[0.16, 0.52]</b>
SO Age				-0.08	0.16	[-0.39, 0.23]	-0.07	0.16	[-0.39, 0.24]			
SO Education				-0.11	0.18	[-0.46, 0.23]	-0.12	0.18	[-0.46, 0.23]			
No. Children				-0.12	0.16	[-0.43, 0.20]	-0.12	0.16	[-0.44, 0.20]			
Dep. Length				0.15	0.20	[-0.24, 0.54]	0.15	0.21	[-0.27, 0.56]			
Time Since Return				0.19	0.15	[-0.09, 0.48]	0.19	0.15	[-0.10, 0.49]			
SM Rank				-0.13	0.15	[-0.43, 0.17]	-0.13	0.15	[-0.43, 0.17]			
SM Combat							0.01	0.16	[-0.30, 0.32]	-0.01	0.15	[-0.31, 0.29]
$R^2$	.08			.53			.53			.47		

Note. SM = Service member; SO = Significant other. Significant associations in **bold**. Standardized coefficients ( $\beta$ ), bootstrapped standard error (SE), and 95% confidence interval (95% C.I.) presented.

## Research Question Two

The second research question examined the extent that T2 daily communication strategies explained associations between T1 established communication patterns and T3 role negotiations. Mediation models tested whether daily communication was a mechanism that contributed to family resilience. Again, four versions of each model were run: a) unconditional, b) conditional with covariates originally proposed, c) conditional with original covariates and combat exposure, and d) conditional with significant covariates and combat exposure.

### Hypotheses 3a and 3b: Within-person daily communication

The third hypothesis predicted that individuals' use of competent daily communication at T2 would mediate the associations between individuals' T1 established communication patterns and T3 role negotiations. Model 5 (Table 10) examined mediation within-service members. The unconditional model indicated that service members' T1 problem solving significantly predicted their own T2 daily communication ( $\beta = 0.41$ , 95% CI [0.18, 0.65]) and T3 role negotiations ( $\beta = 0.35$ , 95% CI [0.06, 0.65]). As such, the total effect from T1 problem solving to T3 role negotiations was also significant ( $\beta = 0.45$ ,  $SE = 0.16$ ,  $p < .01$ ). The path from T2 daily communication to T3 role negotiations was not significant, thus explaining why I did not find evidence of an indirect effect for service members' T2 daily communication. Overall, the unconditional model accounted for 42% of the variance in service members' endogenous variables. After accounting for covariates, T1 relationship happiness was a significant predictor of T2 daily communication, such that service members reporting higher relationship happiness levels also endorsed greater daily communication competency. T1 role negotiations was a significant predictor of T3 role negotiations across all models, whereas relationship length was significant in only Versions B and D. These conditional models explained nearly 80% of the variance in both T2 daily communication strategies and T3 role negotiations, largely due to contributions of relationship happiness, role negotiations, and relationship length.

Model 6 (Table 11) examined the mediating role of daily communication for significant others. The unconditional model revealed positive associations between significant others' T1 problem solving and T2 daily communication ( $\beta = 0.29$ , 95% CI [0.01, 0.58]), as well as T2 daily communication and T3 role negotiations ( $\beta = 0.38$ , 95% CI [0.10, 0.67]). Despite these significant

associations, the indirect effect from T1 problem solving to T3 role negotiations via competent T2 daily communication was not significant. Despite a non-significant direct effect of withdrawal on later role negotiations, there was a significant total effect for withdrawal on T3 role negotiations ( $\beta = -0.29, SE = 0.12, p = .03$ ). The conditional models indicated an interesting pattern of findings for significant others' T2 daily communication. In versions B and C, established communication patterns did not significantly predict T2 daily communication. The reduction of covariates in Version D, however, led to a significant association between T1 problem solving and T2 daily communication. Across all conditional models, the  $R^2$  ranged from 29% to 35%, indicating that covariates were not strong predictors of the variance in significant others' T2 daily communications. Within the conditional models, Versions B and C reflected that T1 role negotiations was the only significant covariate on T3 role negotiations. Taken together, I did not find support that individuals' communication patterns predicted their daily communication competence which then predicted ease in their role negotiations.

#### **Hypotheses 4a and 4b: Between-person daily communication**

The final hypothesis examined the contribution of individuals' established patterns with regard to their partners' daily communication strategies and subsequent role negotiations. Model 7 (Table 12) examined associations between significant others' T1 established patterns, service members' T2 daily communication, and service members' T3 role negotiations. There were two significant associations in the unconditional model. Significant others' T1 problem solving was *negatively* associated with service members' T3 role negotiations ( $\beta = -0.29, 95\% \text{ CI } [-0.56, -0.02]$ ), which was opposite the hypothesized direction. This association indicated that significant others' greater use of problem-solving behaviors at T1 predicted less ease (i.e., greater difficulty) in service members' reports of their T3 role negotiations. There was also a significant positive association between service members' T2 daily communication and their T3 role negotiation ( $\beta = 0.50, 95\% \text{ CI } [0.31, 0.69]$ ). Again, I did not find evidence for an indirect relationship. The addition of covariates highlighted two robust associations: service members' T1 relationship happiness was a significant predictor of T2 daily communication, and their T1 role negotiations was a strong predictor of later role negotiations.

Model 8 (Table 13) evaluated associations between service members' T1 established patterns, significant others' T2 daily communication, and significant others' T3 role negotiations.



The unconditional model indicated a significant association between service members' T1 problem solving and significant others' T2 daily communication ( $\beta = 0.50$ , 95% CI [0.13, 0.88]), such that service members' greater use of problem solving at T1 was associated with increased competence in significant others' daily communication two week later. While this association was not significant in Versions B and C, its significance reemerged in Version D. Across all model versions, service members' T1 established patterns were not significant predictors of significant others' T3 role negotiations. There was, however, a significant association between significant others' T2 daily communication and their later T3 role negotiations ( $\beta = 0.33$ , 95% CI [0.07, 0.59]). The conditional models indicated that relationship length was a robust predictor of significant others' T3 role negotiations. Interestingly, T1 role negotiations were not significant until Version D, which was opposite autoregressive trends in all other models.

Table 10. Results for Model 5 Within-Person Mediation Model: Predicting Service Member T3 Role Negotiations from Service Member T1 Established Patterns through T2 Daily Communication and Service Member Covariates

	5a. Unconditional			5b. Conditional: Original Covariates			5c. Conditional: Original Covariates with Combat			5d. Conditional: Significant Covariates with Combat		
	$\beta$	SE	95% C.I. [LL, UL]	$\beta$	SE	95% C.I. [LL, UL]	$\beta$	SE	95% C.I. [LL, UL]	$\beta$	SE	95% C.I. [LL, UL]
<b>SM T2 Daily Comm.</b>												
SM T1 Prob. Solve →	<b>0.41</b>	<b>0.12</b>	<b>[0.18, 0.65]</b>	0.05	0.17	[-0.29, 0.39]	0.04	0.18	[-0.31, 0.40]	0.15	0.13	[-0.11, 0.41]
SM T1 Withdrawal →	-0.20	0.12	[-0.44, 0.03]	-0.18	0.15	[-0.47, 0.10]	-0.18	0.16	[-0.49, 0.12]	-0.05	0.11	[-0.28, 0.17]
SM T1 Role Negot. →				0.08	0.23	[-0.36, 0.53]	0.11	0.23	[-0.35, 0.57]	0.13	0.16	[-0.18, 0.44]
SM T1 Rel. Happy →				<b>0.54</b>	<b>0.19</b>	<b>[0.17, 0.91]</b>	<b>0.52</b>	<b>0.20</b>	<b>[0.14, 0.91]</b>	<b>0.51</b>	<b>0.16</b>	<b>[0.19, 0.83]</b>
Relationship Length →				0.03	0.16	[-0.29, 0.35]	0.01	0.18	[-0.33, 0.36]	-0.09	0.10	[-0.28, 0.10]
SM Age →				-0.15	0.18	[-0.51, 0.21]	-0.12	0.19	[-0.50, 0.25]			
SM Education →				0.01	0.20	[-0.39, 0.41]	0.01	0.21	[-0.41, 0.41]			
No. Children →				0.01	0.12	[-0.24, 0.25]	0.01	0.13	[-0.25, 0.25]			
Dep. Length →				0.11	0.21	[-0.30, 0.53]	0.12	0.22	[-0.30, 0.55]			
Time Since Return →				0.22	0.17	[-0.11, 0.56]	0.24	0.18	[-0.12, 0.59]			
SM Rank →				0.01	0.22	[-0.42, 0.43]	0.01	0.22	[-0.43, 0.44]			
Combat Exposure →							0.03	0.13	[-0.24, 0.29]	0.02	0.11	[-0.19, 0.24]
<b>SM T3 Role Negotiations</b>												
SM T2 Daily Comm. →	0.23	0.14	[-0.04, 0.51]	-0.01	0.19	[-0.39, 0.36]	-0.02	0.20	[-0.41, 0.38]	0.08	0.16	[-0.22, 0.39]
SM T1 Prob. Solve →	<b>0.35</b>	<b>0.15</b>	<b>[0.06, 0.65]</b>	0.03	0.24	[-0.44, 0.51]	0.01	0.25	[-0.47, 0.49]	0.12	0.17	[-0.21, 0.45]
SM T1 Withdrawal →	-0.06	0.16	[-0.38, 0.26]	-0.04	0.17	[-0.37, 0.30]	-0.03	0.18	[-0.39, 0.32]	0.06	0.14	[-0.22, 0.34]
SM T1 Role Negot. →				<b>0.43</b>	<b>0.19</b>	<b>[0.06, 0.81]</b>	<b>0.49</b>	<b>0.20</b>	<b>[0.09, 0.88]</b>	<b>0.48</b>	<b>0.11</b>	<b>[0.26, 0.70]</b>
SM T1 Rel. Happy →				0.30	0.19	[-0.07, 0.68]	0.28	0.21	[-0.13, 0.69]	0.18	0.17	[-0.16, 0.52]
Relationship Length →				<b>0.42</b>	<b>0.20</b>	<b>[0.03, 0.81]</b>	0.38	0.20	[-0.01, 0.76]	<b>0.27</b>	<b>0.10</b>	<b>[0.07, 0.46]</b>
SM Age →				-0.14	0.20	[-0.52, 0.25]	-0.08	0.21	[-0.48, 0.32]			
SM Education →				-0.07	0.17	[-0.40, 0.27]	-0.08	0.18	[-0.44, 0.28]			

Table 10. *Continued*

No. Children →		-0.02	0.13	[-0.27, 0.23]	-0.01	0.13	[-0.27, 0.25]			
Dep. Length →		0.23	0.20	[-0.16, 0.62]	0.23	0.20	[-0.17, 0.64]			
Time Since Return →		0.13	0.15	[-0.16, 0.43]	0.15	0.16	[-0.16, 0.47]			
SM Rank →		-0.06	0.20	[-0.45, 0.32]	-0.07	0.21	[-0.47, 0.33]			
Combat Exposure →					0.07	0.13	[-0.18, 0.32]	0.07	0.11	[-0.15, 0.29]
<b>Indirect Effects</b>										
<b>SM T3 Role Negotiations</b>										
SM T1 Prob. Solve →	0.10 (0.07), $p = .13$			-0.01 (0.01), $p = .95$			-0.01 (0.01), $p = .94$			0.01 (0.03), $p = .61$
SM T2 Daily Comm. →										
SM T1 Withdrawal →	-0.05 (0.03), $p = .22$			0.01 (0.03), $p = .94$			0.01 (0.03), $p = .93$			-0.01 (0.01), $p = .75$
SM T2 Daily Comm. →										
<b>Total Effects</b>										
<b>SM T3 Role Negotiations</b>										
SM T1 Prob. Solve →	<b>0.45 (0.16), <math>p = .004</math></b>			0.03 (0.26), $p = .90$			0.01 (0.26), $p = .96$			0.13 (0.18), $p = .44$
SM T1 Withdrawal →	-0.11 (0.13), $p = .48$			-0.03 (0.14), $p = .85$			-0.03 (0.16), $p = .88$			0.06 (0.12), $p = .68$
<i>T2 Daily Communication <math>R^2</math></i>	.32			.58			.58			.53
<i>T3 Role Negotiations <math>R^2</math></i>	.32			.67			.67			.61
<i>Overall <math>R^2</math></i>	.42			.82			.82			.76

Note. SM = Service member. Significant associations in **bold**. Standardized coefficients ( $\beta$ ), bootstrapped standard error ( $SE$ ), and 95% confidence interval (95% C.I.) presented.

Table 11. *Results for Model 6 Within-Person Mediation Model: Predicting Significant Other T3 Role Negotiations from Significant Other T1 Established Patterns through T2 Daily Communication and Significant Other Covariates*

	6a. Unconditional			6b. Conditional: Original Covariates			6c. Conditional: Original Covariates with Combat			6d. Conditional: Significant Covariates with Combat		
	$\beta$	SE	95% C.I.	$\beta$	SE	95% C.I.	$\beta$	SE	95% C.I.	$\beta$	SE	95% C.I.
<b>SO T2 Daily Comm.</b>												
SO T1 Prob. Solve →	<b>0.29</b>	<b>0.15</b>	<b>[0.01, 0.58]</b>	0.26	0.17	[-0.06, 0.59]	0.30	0.18	[-0.02, 0.63]	<b>0.30</b>	<b>0.14</b>	<b>[0.04, 0.57]</b>
SO T1 Withdrawal →	-0.20	0.17	[-0.53, 0.13]	-0.10	0.20	[-0.50, 0.30]	-0.08	0.20	[-0.48, 0.31]	-0.13	0.17	[-0.47, 0.21]
SO T1 Role Negot. →				0.33	0.21	[-0.06, 0.59]	0.30	0.21	[-0.12, 0.72]	0.32	0.18	[-0.03, 0.67]
SO T1 Rel. Happy →				0.01	0.26	[-0.48, 0.52]	0.06	0.26	[-0.44, 0.57]	-0.04	0.19	[-0.42, 0.34]
Relationship Length →				0.11	0.22	[-0.32, 0.54]	0.18	0.21	[-0.24, 0.60]	0.06	0.15	[-0.23, 0.35]
SO Age →				-0.16	0.21	[-0.56, 0.25]	-0.21	0.21	[-0.61, 0.20]			
SO Education →				0.04	0.17	[-0.29, 0.38]	0.10	0.18	[-0.25, 0.46]			
No. Children →				0.03	0.20	[-0.35, 0.41]	0.06	0.21	[-0.34, 0.45]			
Dep. Length →				0.08	0.20	[-0.31, 0.46]	0.10	0.20	[-0.30, 0.50]			
Time Since Return →				0.21	0.18	[-0.14, 0.56]	0.21	0.18	[-0.14, 0.56]			
SM Rank →				-0.05	0.14	[-0.32, 0.23]	0.01	0.15	[-0.29, 0.29]			
Combat Exposure →							-0.19	0.13	[-0.45, 0.08]	-0.15	0.12	[-0.38, 0.07]
<b>SO T3 Role Negotiations</b>												
SO T2 Daily Comm. →	<b>0.38</b>	<b>0.14</b>	<b>[0.10, 0.67]</b>	0.16	0.14	[-0.10, 0.43]	0.19	0.14	[-0.09, 0.46]	0.21	0.12	[-0.03, 0.44]
SO T1 Prob. Solve →	-0.30	0.15	[-0.60, 0.01]	-0.25	0.14	[-0.52, 0.02]	-0.28	0.15	[-0.57, 0.01]	-0.24	0.13	[-0.50, 0.03]
SO T1 Withdrawal →	-0.21	0.18	[-0.56, 0.13]	-0.07	0.16	[-0.39, 0.24]	-0.08	0.16	[-0.39, 0.23]	-0.11	0.14	[-0.39, 0.17]
SO T1 Role Negot. →				<b>0.35</b>	<b>0.16</b>	<b>[0.03, 0.66]</b>	<b>0.36</b>	<b>0.17</b>	<b>[0.03, 0.69]</b>	<b>0.39</b>	<b>0.13</b>	<b>[0.13, 0.65]</b>
SO T1 Rel. Happy →				0.19	0.16	[-0.12, 0.49]	0.16	0.17	[-0.17, 0.50]	0.12	0.14	[-0.15, 0.40]
Relationship Length →				0.31	0.18	[-0.04, 0.65]	0.26	0.18	[-0.09, 0.61]	<b>0.29</b>	<b>0.11</b>	<b>[0.08, 0.50]</b>
SO Age →				-0.02	0.18	[-0.38, 0.34]	0.02	0.19	[-0.35, 0.39]			
SO Education →				-0.12	0.18	[-0.47, 0.24]	-0.15	0.18	[-0.51, 0.20]			

Table 11. *Continued*

No. Children →		-0.11	0.16	[-0.41, 0.20]	-0.12	0.16	[-0.44, 0.19]			
Dep. Length →		0.09	0.19	[-0.28, 0.46]	0.07	0.19	[-0.31, 0.45]			
Time Since Return →		0.10	0.14	[-0.18, 0.37]	0.09	0.14	[-0.19, 0.37]			
SM Rank →		-0.19	0.14	[-0.46, 0.07]	-0.22	0.13	[-0.48, 0.04]			
Combat Exposure →					0.11	0.16	[-0.20, 0.44]	0.08	0.15	[-0.21, 0.36]
<b>Indirect Effects</b>										
<b>SO T3 Role Negotiations</b>										
SO T1 Prob. Solve →	0.11 (0.08), $p = .14$		0.04 (0.05), $p = .39$		0.06 (0.06), $p = .32$		0.06 (0.05), $p = .19$			
SO T2 Daily Comm.										
SO T1 Withdrawal →	-0.08 (0.07), $p = .33$		-0.02 (0.04), $p = .70$		-0.02 (0.04), $p = .73$		-0.03 (0.04), $p = .55$			
SO T2 Daily Comm.										
<b>Total Effects</b>										
<b>SO T3 Role Negotiations</b>										
SO T1 Prob. Solve →	-0.18 (0.19), $p = .32$		-0.21 (0.14), $p = .13$		-0.22 (0.15), $p = .12$		-0.17 (0.13), $p = .17$			
SO T1 Withdrawal →	<b>-0.29 (0.12), <math>p = .03</math></b>		-0.09 (0.12), $p = .52$		-0.09 (0.12), $p = .48$		-0.14 (0.10), $p = .22$			
<i>T2 Daily Communication <math>R^2</math></i>	.17		.32		.35		.29			
<i>T3 Role Negotiations <math>R^2</math></i>	.21		.56		.57		.52			
<i>Overall <math>R^2</math></i>	.25		.66		.69		.62			

Note. SO = Significant other. Significant associations in **bold**. Standardized coefficients ( $\beta$ ), bootstrapped standard error ( $SE$ ), and 95% confidence interval (95% C.I.) presented.

Table 12. *Results for Model 7 Between-Partner Mediation Model: Predicting Service Member T3 Role Negotiations from Significant Other T1 Established Patterns through Service Member T2 Daily Communication and Service Member Covariates*

	7a. Unconditional			7b. Conditional: Original Covariates			7c. Conditional: Original Covariates with Combat			7d. Conditional: Significant Covariates with Combat		
	$\beta$	SE	95% C.I.	$\beta$	SE	95% C.I.	$\beta$	SE	95% C.I.	$\beta$	SE	95% C.I.
<b>SM T2 Daily Comm.</b>												
SO T1 Prob. Solve →	0.13	0.12	[-0.11, 0.37]	0.14	0.13	[-0.11, 0.39]	0.13	0.14	[-0.14, 0.40]	0.14	0.12	[-0.10, 0.38]
SO T1 Withdrawal →	0.01	0.16	[-0.31, 0.31]	0.10	0.18	[-0.26, 0.46]	0.10	0.19	[-0.27, 0.47]	0.06	0.13	[-0.19, 0.32]
SM T1 Role Negot. →				0.14	0.23	[-0.31, 0.58]	0.16	0.24	[-0.30, 0.62]	0.19	0.16	[-0.12, 0.49]
SM T1 Rel. Happy →				<b>0.65</b>	<b>0.19</b>	<b>[0.27, 1.03]</b>	<b>0.63</b>	<b>0.21</b>	<b>[0.22, 1.04]</b>	<b>0.60</b>	<b>0.16</b>	<b>[0.29, 0.91]</b>
Relationship Length →				0.04	0.17	[-0.30, 0.37]	0.02	0.18	[-0.34, 0.37]	-0.06	0.11	[-0.26, 0.13]
SM Age →				-0.14	0.19	[-0.52, 0.24]	-0.11	0.20	[-0.51, 0.28]			
SM Education →				-0.02	0.26	[-0.52, 0.49]	-0.03	0.26	[-0.54, 0.49]			
No. Children →				-0.03	0.13	[-0.29, 0.23]	-0.03	0.14	[-0.30, 0.25]			
Dep. Length →				0.09	0.23	[-0.36, 0.54]	0.09	0.23	[-0.36, 0.55]			
Time Since Return →				0.18	0.16	[-0.14, 0.50]	0.19	0.17	[-0.15, 0.53]			
SM Rank →				-0.05	0.25	[-0.53, 0.44]	-0.05	0.25	[-0.55, 0.45]			
Combat Exposure →							0.02	0.14	[-0.25, 0.29]	0.02	0.12	[-0.21, 0.25]
<b>SM T3 Role Negotiations</b>												
SM T2 Daily Comm. →	<b>0.50</b>	<b>0.10</b>	<b>[0.31, 0.69]</b>	0.04	0.19	[-0.33, 0.42]	0.04	0.20	[-0.35, 0.43]	0.14	0.15	[-0.15, 0.43]
SO T1 Prob. Solve →	<b>-0.29</b>	<b>0.14</b>	<b>[-0.56, -0.02]</b>	-0.17	0.12	[-0.40, 0.06]	-0.20	0.12	[-0.43, 0.04]	-0.19	0.11	[-0.41, 0.03]
SO T1 Withdrawal →	-0.13	0.12	[-0.37, 0.10]	-0.03	0.13	[-0.28, 0.23]	-0.05	0.14	[-0.30, 0.22]	-0.09	0.09	[-0.28, 0.09]
SM T1 Role Negot. →				<b>0.45</b>	<b>0.17</b>	<b>[0.12, 0.79]</b>	<b>0.51</b>	<b>0.18</b>	<b>[0.15, 0.87]</b>	<b>0.50</b>	<b>0.10</b>	<b>[0.30, 0.70]</b>
SM T1 Rel. Happy →				0.29	0.17	[-0.03, 0.62]	0.24	0.18	[-0.10, 0.59]	0.16	0.14	[-0.10, 0.43]
Relationship Length →				0.33	0.17	[-0.03, 0.62]	0.27	0.16	[-0.05, 0.60]	0.23	0.09	[-0.04, 0.41]
SM Age →				-0.10	0.18	[-0.45, 0.25]	-0.04	0.18	[-0.40, 0.32]			
SM Education →				-0.08	0.21	[-0.49, 0.33]	-0.09	0.21	[-0.51, 0.33]			

Table 12. *Continued*

No. Children →		0.01	0.12	[-0.23, 0.23]	0.02	0.12	[-0.22, 0.25]			
Dep. Length →		0.20	0.18	[-0.16, 0.56]	0.20	0.19	[-0.17, 0.56]			
Time Since Return →		0.13	0.15	[-0.16, 0.42]	0.15	0.16	[-0.16, 0.46]			
SM Rank →		-0.12	0.20	[-0.51, 0.27]	-0.13	0.20	[-0.53, 0.28]			
Combat Exposure →					0.10	0.12	[-0.13, 0.34]	0.10	0.11	[-0.11, 0.31]
<b>Indirect Effects</b>										
<b>SM T3 Role Negotiations</b>										
SO T1 Prob. Solve →	0.06 (0.08), <i>p</i> = .31			0.01 (0.03), <i>p</i> = .82			0.01 (0.03), <i>p</i> = .84			0.02 (0.03), <i>p</i> = .45
SM T2 Daily Comm.										
SO T1 Withdrawal →	0.01 (0.08), <i>p</i> = .99			0.01 (0.01), <i>p</i> = .83			0.01 (0.02), <i>p</i> = .84			0.01 (0.02), <i>p</i> = .68
SM T2 Daily Comm.										
<b>Total Effects</b>										
<b>SM T3 Role Negotiations</b>										
SO T1 Prob. Solve →	-0.22 (0.21), <i>p</i> = .20			-0.16 (0.15), <i>p</i> = .18			-0.19 (0.16), <i>p</i> = .15			-0.17 (0.14), <i>p</i> = .15
SO T1 Withdrawal →	-0.13 (0.15), <i>p</i> = .38			-0.02 (0.14), <i>p</i> = .86			-0.04 (0.15), <i>p</i> = .80			-0.08 (0.10), <i>p</i> = .41
<hr/>										
<i>T2 Daily Communication R<sup>2</sup></i>	.02			.57			.57			.52
<i>T3 Role Negotiations R<sup>2</sup></i>	.29			.69			.70			.64
<i>Overall R<sup>2</sup></i>	.11			.83			.83			.78

*Note.* SM = Service member; SO = Significant other. Significant associations in **bold**. Standardized coefficients ( $\beta$ ), bootstrapped standard error (*SE*), and 95% confidence interval (95% C.I.) presented.

Table 13. *Results for Model 8 Between-Partner Mediation Model: Predicting Significant Other T3 Role Negotiations from Service Member T1 Established Patterns through Significant Other T2 Daily Communication and Significant Other Covariates*

	8a. Unconditional			8b. Conditional: Original Covariates			8c. Conditional: Original Covariates with Combat			8d. Conditional: Significant Covariates with Combat		
	$\beta$	SE	95% C.I.	$\beta$	SE	95% C.I.	$\beta$	SE	95% C.I.	$\beta$	SE	95% C.I.
<b>SO T2 Daily Comm.</b>												
SM T1 Prob. Solve →	<b>0.50</b>	<b>0.19</b>	<b>[0.13, 0.88]</b>	0.35	0.24	[-0.12, 0.83]	0.39	0.24	[-0.08, 0.86]	<b>0.46</b>	<b>0.20</b>	<b>[0.07, 0.85]</b>
SM T1 Withdrawal →	0.30	0.23	[-0.15, 0.74]	0.23	0.28	[-0.32, 0.78]	0.21	0.28	[-0.35, 0.77]	0.32	0.21	[-0.08, 0.72]
SO T1 Role Negot. →				0.37	0.19	[-0.01, 0.74]	0.33	0.21	[-0.08, 0.73]	<b>0.35</b>	<b>0.16</b>	<b>[0.04, 0.65]</b>
SO T1 Rel. Happy →				0.06	0.24	[-0.41, 0.53]	0.11	0.24	[-0.37, 0.58]	0.03	0.16	[-0.29, 0.35]
Relationship Length →				0.01	0.22	[-0.43, 0.45]	0.07	0.22	[-0.35, 0.50]	-0.04	0.13	[-0.29, 0.22]
SO Age →				-0.16	0.20	[-0.54, 0.22]	-0.21	0.20	[-0.60, 0.18]			
SO Education →				0.02	0.18	[-0.33, 0.37]	0.07	0.18	[-0.29, 0.43]			
No. Children →				0.04	0.21	[-0.36, 0.45]	0.08	0.22	[-0.35, 0.50]			
Dep. Length →				0.03	0.21	[-0.36, 0.43]	0.05	0.21	[-0.36, 0.47]			
Time Since Return →				0.17	0.21	[-0.24, 0.58]	0.17	0.21	[-0.24, 0.58]			
SM Rank →				-0.05	0.14	[-0.33, 0.24]	0.01	0.15	[-0.29, 0.31]			
Combat Exposure →							-0.19	0.13	[-0.45, 0.08]	-0.15	0.10	[-0.35, 0.05]
<b>SO T3 Role Negotiations</b>												
SO T2 Daily Comm. →	<b>0.33</b>	<b>0.13</b>	<b>[0.07, 0.59]</b>	0.12	0.13	[-0.14, 0.38]	0.13	0.14	[-0.14, 0.40]	0.16	0.11	[-0.06, 0.38]
SM T1 Prob. Solve →	0.03	0.18	[-0.32, 0.37]	-0.11	0.16	[-0.43, 0.21]	-0.12	0.17	[-0.45, 0.21]	-0.01	0.14	[-0.28, 0.26]
SM T1 Withdrawal →	-0.21	0.16	[-0.53, 0.11]	-0.24	0.17	[-0.57, 0.09]	-0.24	0.18	[-0.59, 0.11]	-0.14	0.14	[-0.42, 0.14]
SO T1 Role Negot. →				0.29	0.18	[-0.05, 0.64]	0.30	0.19	[-0.07, 0.67]	<b>0.36</b>	<b>0.15</b>	<b>[0.07, 0.65]</b>
SO T1 Rel. Happy →				0.21	0.16	[-0.11, 0.53]	0.20	0.18	[-0.16, 0.55]	0.12	0.15	[-0.18, 0.43]
Relationship Length →				<b>0.43</b>	<b>0.17</b>	<b>[0.09, 0.77]</b>	<b>0.42</b>	<b>0.18</b>	<b>[0.07, 0.77]</b>	<b>0.35</b>	<b>0.10</b>	<b>[0.15, 0.55]</b>
SO Age →				-0.06	0.17	[-0.38, 0.27]	-0.04	0.17	[-0.37, 0.29]			
SO Education →				-0.12	0.18	[-0.47, 0.23]	-0.13	0.18	[-0.48, 0.22]			



Table 13. *Continued*

No. Children →		-0.12	0.17	[-0.44, 0.20]	-0.13	0.17	[-0.46, 0.21]			
Dep. Length →		0.14	0.21	[-0.26, 0.55]	0.14	0.22	[-0.29, 0.57]			
Time Since Return →		0.17	0.15	[-0.13, 0.47]	0.17	0.16	[-0.14, 0.48]			
SM Rank →		-0.12	0.15	[-0.43, 0.18]	-0.13	0.16	[-0.44, 0.17]			
Combat Exposure →					0.04	0.17	[-0.29, 0.37]	0.02	0.15	[-0.29, 0.32]
<b>Indirect Effects</b>										
<b>SO T3 Role Negotiations</b>										
SM T1 Prob. Solve →	0.16 (0.09), $p = .10$		0.04 (0.05), $p = .45$		0.05 (0.06), $p = .44$			0.07 (0.06), $p = .24$		
SO T2 Daily Comm.										
SM T1 Withdrawal →	0.10 (0.07), $p = .28$		0.03 (0.04), $p = .58$		0.03 (0.04), $p = .60$			0.05 (0.04), $p = .35$		
SO T2 Daily Comm.										
<b>Total Effects</b>										
<b>SO T3 Role Negotiations</b>										
SM T1 Prob. Solve →	0.19 (0.16), $p = .26$		-0.07 (0.15), $p = .67$		-0.07 (0.15), $p = .66$			0.06 (0.12), $p = .63$		
SM T1 Withdrawal →	-0.11 (0.12), $p = .49$		-0.21 (0.13), $p = .23$		-0.21 (0.14), $p = .25$			-0.09 (0.11), $p = .54$		
<i>T2 Daily Communication <math>R^2</math></i>	.15		.31		.34			.30		
<i>T3 Role Negotiations <math>R^2</math></i>	.17		.54		.54			.49		
<i>Overall <math>R^2</math></i>	.20		.64		.66			.60		

Note. SM = Service member; SO = Significant other. Significant associations in **bold**. Standardized coefficients ( $\beta$ ), bootstrapped standard error ( $SE$ ), and 95% confidence interval (95% C.I.) presented.

## Post Hoc Analyses

Two post hoc analyses were run in response to suggestions from my committee.

### Demographic risk variable

Authors have created a demographic risk variable (e.g., Kochanska, Aksan, Penney, & Boldt, 2007; Taylor et al., 2013) to measure the effects of multiple demographic risk factors (e.g., educational attainment, income) on individual functioning. Using a composite score including parental age, education, income, and number of children in the household, investigators found that demographic risk predicted negative parenting behaviors and less effortful control for children (Kochanska et al., 2007; Taylor et al., 2013). Following suggestions from committee, I evaluated a demographic risk variable in the current project for two reasons. First, this variable would provide a more dyadic understanding of demographic risk in a family context. For example, perhaps controlling for one's education fails to address the cumulative risk of the other partner's education. Secondly, this composite risk score would preserve statistical power which is a concern given the small sample size. Acknowledging that the military is a unique context of risk, some modifications were made to the demographic risk variable to be suitable for the current sample. Military-related risk was evaluated using variables from Lucier-Greer and colleagues' (2014) investigation of cumulative risk for military adolescents.

Eight constructs were included in the present study's demographic risk variable: 1) service members' education; 2) significant others' education; 3) number of children living in household; 4) combined gross annual income; 5) relationship length; 6) service members' paygrade; 7) total number of combat deployments in service members' career; and 8) combat exposure during recent deployment. Each variable was re-coded into categorical variables based on certain scores according to the risk with higher scores indicating greater risk (see Table A5). Composite scores were summed to create a variable with potential range of 0 (least risk) to 16 (most risk).

Descriptive statistics for this composite demographic risk variable and individual variables are presented in Table 14. Evaluation of the overall demographic risk distribution (see Figure 4) indicated a range from 2 to 14, a mean of 8.04 ( $SD = 2.89$ ), and skew (-0.17) and kurtosis (-0.54) in normal range. Internal reliability was poor ( $\alpha = .44$ ). As evidenced by Table 5, this variable was significantly correlated with both partners' education (more education associated with less risk),

relationship length (more established relationships associated with less risk) and paygrade (enlisted personnel associated with greater risk). Correlations also indicated that, for service members, less demographic risk was associated with greater ease of T1 role negotiations, but *less* T1 problem solving and *greater* T1 withdrawal. These latter correlations are in opposite hypothesized directions.

Models were then run including this demographic risk variable as a covariate in place of the variables that contributed to the variable. In other words, covariates in these models included demographic risk, T1 role negotiations, relationship happiness, age, deployment length, and time since return. As presented in Tables 15 and 16, results did not change and this demographic risk variable was not associated with either daily communication or role negotiations.

### **Established patterns as a latent variable**

Established communication patterns within families are dyadic: two or more partners contribute to the establishment and perpetuation of interactional patterns (Canary, 2003). Feedback loops within family systems theory can describe how each individuals' communication strategies are influenced by their partner's strategies (Cox & Paley, 1997). This interdependence suggests that there could be similarity between partners' reports of their communication behaviors and patterns. Statistically, this can be conceptualized as shared variance between service members' and significant others' established communication patterns. To investigate this claim, I fit dyadic latent variables in a structural equation modeling framework to examine underlying, couple-level patterns. Dyadic latent variables include variables from two partners and measure the shared variance underlying both individuals' reports (Gonzalez & Griffin, 2012). In Stata (StataCorp, 2017), I fit two latent variables using maximum likelihood with missing values to represent the couples' shared variance in problem solving (i.e., problem solving established pattern) and withdrawal (i.e., withdrawal established pattern) behaviors. Model fit indices (chi-square, RMSEA, CFI, TLI, SRMR) were evaluated using recommendations by Hu and Bentler (1999).

I first modeled a latent variable predicting both individuals' means on the respective subscales. For example, service members' and significant others' means on the problem solving subscale were indicators for the underlying dyadic problem-solving established pattern. This model, however, was under-identified, indicating that there were more parameters (i.e., paths between latent variable, error terms, and mean scores) than there were degrees of freedom (i.e., 3).

Due to negative degrees of freedom in both models, I was unable to evaluate the factor loadings or model fit.

To allow for more degrees of freedom, I ran a model where each latent variable predicted both members' scores on the individual items that comprised the respective subscales. For example, the T1 problem solving latent variable predicted both service members' and significant others' scores on the four problem solving items. It is important to note that this changed the interpretation of the dyadic latent variable, which now represented the shared variance across eight items from two reporters. Results are reported in Figure 5. Model fit statistics indicated poor model fit for both latent variables across all fit indicators. This poor fit was also reflected in discrepant factor loadings between service members' and significant others' reports. Due to the poor fit of these latent variables, I did not evaluate associations between these dyadic latent variables and daily communication or role negotiations.

Table 14. *Descriptive Statistics for Demographic Risk Variable*

	%	M (SD)	Range
<b>Demographic risk score<sup>a</sup></b>		<b>8.04 (2.89)</b>	<b>2 – 14</b>
Service member education		0.83 (0.72)	0 – 2
No high school (3)	0.00		
High school diploma (2)	18.52		
Some college/Associates degree (1)	46.30		
Completed college (0)	35.19		
Significant other education		0.83 (0.69)	0 – 2
No high school (3)	0.00		
High school diploma (2)	16.67		
Some college/Associates degree (1)	50.00		
Completed college or beyond (0)	33.30		
Number of children		1.41 (0.77)	0 – 2
Two or more children (2)	57.41		
One child (1)	25.93		
No children (0)	16.67		
Combined gross income (annual)		1.23 (1.05)	0 – 3
Less than \$30,000 (3)	12.77		
\$30,000 – 59,999 (2)	29.79		
\$60,000 – 89,999 (1)	25.53		
More than \$90,000 (0)	31.92		
Relationship length (years)		1.72 (0.98)	0 – 3
Less than 5 years (3)	18.52		
5 to 9.99 years (2)	53.70		
10 to 14.99 years (1)	9.26		
15 or more years (0)	18.52		
Service member paygrade		0.78 (0.42)	0 – 1
Enlisted (1)	77.78		
Officer (0)	22.22		
Total combat deployments in career <sup>b</sup>		0.79 (0.96)	0 – 3
Three or more prior combat deployments (3)	7.41		
Two prior combat deployments (2)	14.81		
One prior combat deployment (1)	27.78		
No prior combat deployments (0)	50.00		
Recent combat exposure <sup>c</sup>		0.59 (0.50)	0 – 1
Combat exposure (1)	59.36		
No combat exposure (0)	40.74		

*Note.* Demographic risk variable modeled off variables used in Kochanska et al. (2007), Lucier-Greer et al. (2014), and Taylor et al. (2013).  
<sup>a</sup>Calculated by summing both partners' education, number of children, combined gross annual income, length of relationship, paygrade, service member career combats, combat exposure on recent deployment. Possible range 0 to 16, with higher scores indicating greater sociodemographic risk. <sup>b</sup>Not including recent deployment; collected at T0. <sup>c</sup>Combat exposure on most recent deployment.

Table 15. *Demographic Risk Variable: Post hoc Results from Research Question One*

		<i>Model 1</i>			<i>Model 2</i>			<i>Model 3</i>			<i>Model 4</i>		
		$\beta$	<i>SE</i>	95% C.I. [LL, UL]	$\beta$	<i>SE</i>	95% C.I. [LL, UL]	$\beta$	<i>SE</i>	95% C.I. [LL, UL]	$\beta$	<i>SE</i>	95% C.I. [LL, UL]
T1	Problem Solving	.03	.21	[-.38, .44]	-.26	.13	[-.52, .01]	-.23	.13	[-.48, .02]	-.01	.15	[-.30, .28]
T1	Withdrawal	.03	.16	[-.29, .35]	-.16	.14	[-.44, .12]	-.09	.12	[-.32, .14]	-.12	.16	[-.43, .18]
	Demographic risk	-.05	.14	[-.32, .23]	-.19	.13	[-.45, .07]	-.08	.14	[-.36, .85]	-.13	.14	[-.40, .14]
T1	Role Negotiations	<b>.62</b>	<b>.14</b>	<b> [.34, .91]</b>	<b>.45</b>	<b>.14</b>	<b> [.17, .73]</b>	<b>.60</b>	<b>.13</b>	<b> [.35, .85]</b>	<b>.41</b>	<b>.14</b>	<b> [.13, .70]</b>
T1	Rel. Happiness	.23	.15	[-.07, .52]	.15	.17	[-.16, .45]	.24	.12	[-.01, .49]	.16	.16	[-.17, .39]
	Age	.13	.19	[-.24, .50]	.07	.14	[-.19, .34]	.09	.16	[-.19, .41]	.09	.15	[-.36, .45]
	Dep. Length	.16	.22	[-.13, .46]	.05	.18	[-.12, .40]	.17	.18	[-.19, .53]	.05	.21	[-.36, .45]
	Time Since Return	.17	.15	[-.13, .46]	.14	.13	[-.12, .40]	.19	.13	[-.07, .45]	.16	.15	[-.14, .47]
<i>R</i> <sup>2</sup>		<i>.57</i>			<i>.45</i>			<i>.62</i>			<i>.40</i>		

*Note.* SM = Service member; SO = Significant other. Significant associations in **bold**. Standardized coefficients ( $\beta$ ), bootstrapped standard error (*SE*), and 95% confidence interval (95% C.I.) presented. Model 1 = Within-service members; predicting SM T3 from T1 established patterns and own covariates. Model 2 = Within-significant others; predicting SO T3 from T1 established patterns and own covariates. Model 3 = Between-partners; predicting SM T3 from SO T1 established patterns and SM covariates. Model 4 = Between-partners; predicting SO T3 from SM T1 established patterns SO own covariates.

Table 16. *Demographic Risk Variable: Post hoc Results from Research Question Two*

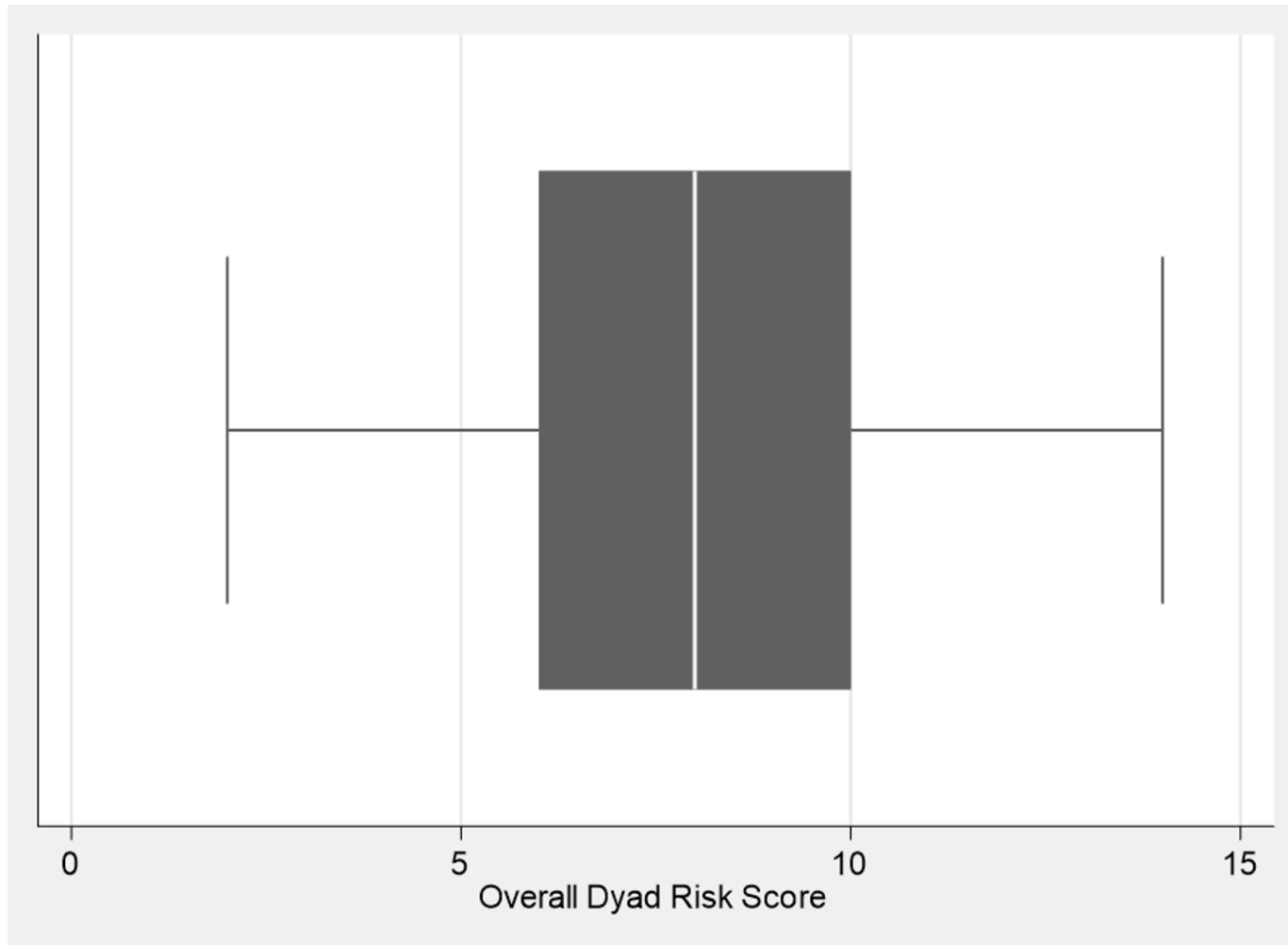
	<i>Model 5</i>			<i>Model 6</i>			<i>Model 7</i>			<i>Model 8</i>		
	$\beta$	<i>SE</i>	<i>95% C.I.</i>	$\beta$	<i>SE</i>	<i>95% C.I.</i>	$\beta$	<i>SE</i>	<i>95% C.I.</i>	$\beta$	<i>SE</i>	<i>95% C.I.</i>
<b>T2 Daily Comm.</b>												
T1 Problem Solving →	.09	.15	[-.21, .39]	.24	.14	[-.04, .53]	.14	.12	[-.10, .37]	<b>.39</b>	<b>.22</b>	<b>[-.04, .82]</b>
T1 Withdrawal →	-.20	.13	[-.46, .06]	-.10	.20	[-.50, .30]	.10	.13	[-.16, .36]	.23	.25	[-.27, .73]
Demographic risk →	.15	.13	[-.12, .41]	-.01	.15	[-.30, .29]	.10	.13	[-.16, .36]	.07	.14	[-.19, .34]
T1 Role Negot. →	.17	.19	[-.20, .53]	.33	.19	[-.05, .71]	.25	.19	[-.13, .63]	<b>.35</b>	<b>.16</b>	<b>[-.03, .67]</b>
T1 Rel. Happy →	<b>.47</b>	<b>.17</b>	<b>[-.14, .80]</b>	.02	.23	[-.44, .47]	<b>.59</b>	<b>.16</b>	<b>[-.27, .91]</b>	.07	.20	[-.32, .46]
Age →	-.07	.14	[-.35, .22]	-.07	.17	[-.40, .27]	-.05	.16	[-.37, .27]	-.10	.15	[-.40, .20]
Dep. Length →	.11	.15	[-.20, .41]	.07	.16	[-.24, .37]	.13	.17	[-.21, .46]	.04	.15	[-.25, .33]
Time Since Return →	.22	.14	[-.04, .49]	.19	.16	[-.12, .51]	.21	.12	[-.03, .45]	.15	.18	[-.20, .50]
<b>T3 Role Negotiations</b>												
T2 Daily Comm. →	.01	.17	[-.31, .34]	.21	.13	[-.05, .46]	.07	.16	[-.25, .39]	.15	.14	[-.14, .43]
T1 Problem Solving →	.03	.21	[-.38, .44]	<b>-.31</b>	<b>.14</b>	<b>[-.58, -.03]</b>	-.24	.13	[-.49, .01]	-.07	.17	[-.40, .26]
T1 Withdrawal →	.03	.17	[-.30, .44]	-.14	.17	[-.47, .19]	-.09	.12	[-.33, .14]	-.16	.17	[-.49, .17]
Demographic risk →	-.04	.14	[-.32, .23]	-.19	.13	[-.45, .06]	-.08	.14	[-.35, .19]	-.14	.14	[-.42, .14]
T1 Role Negot. →	<b>.63</b>	<b>.14</b>	<b>[-.35, .91]</b>	<b>.38</b>	<b>.16</b>	<b>[-.09, .67]</b>	<b>.59</b>	<b>.13</b>	<b>[-.34, .84]</b>	<b>.36</b>	<b>.16</b>	<b>[-.05, .67]</b>
T1 Rel. Happy →	.22	.20	[-.17, .60]	.14	.15	[-.15, .43]	.19	.19	[-.17, .56]	.15	.16	[-.18, .47]
Age →	.13	.19	[-.24, .50]	.09	.13	[-.17, .34]	.10	.17	[-.23, .42]	.10	.15	[-.19, .40]
Dep. Length →	.16	.22	[-.27, .59]	.04	.18	[-.31, .39]	.17	.19	[-.20, .53]	.04	.21	[-.37, .45]
Time Since Return →	.16	.16	[-.15, .47]	.10	.14	[-.17, .37]	.18	.14	[-.10, .46]	.14	.16	[-.17, .45]
<b>Indirect Effects</b>												
<b>T3 Role Negotiations</b>												
T1 Prob. Solve → T2 Daily Comm.	.01 (.02), $p = .94$			.05 (.05), $p = .27$			.01 (.03), $p = .71$			.06 (.07), $p = .41$		
T1 Withdrawal → T2 Daily Comm.	-.01 (.03), $p = .94$			-.02 (.04), $p = .68$			.01 (.02), $p = .73$			.03 (.04), $p = .55$		

Table 16. *Continued*

<b>Total Effects</b>				
<b>SO T3 Role Negotiations</b>				
T1 Prob. Solve →	.03 (.23), $p = .88$	.21 (.15), $p = .11$	-.23 (.17), $p = .09$	-.01 (.15), $p = .95$
T1 Withdrawal →	.03 (.14), $p = .86$	-.26 (.15), $p = .06$	-.09 (.13), $p = .48$	-.13 (.13), $p = .46$
<i>T2 Daily Communication <math>R^2</math></i>	.60	.30	.59	.31
<i>T3 Role Negotiations <math>R^2</math></i>	.57	.48	.62	.41
<i>Overall <math>R^2</math></i>	.78	.59	.80	.55

*Note.* SM = Service member; SO = Significant other. Significant associations in **bold**. Standardized coefficients ( $\beta$ ), bootstrapped standard error ( $SE$ ), and 95% confidence interval (95% C.I.) presented. Model 5 = Within-service members; SM T1 → SM T2 → SM T3, with SM covariates on mediator and outcome. Model 5 = Within-significant others; SO T1 → SO T2 → SO T3, with SO covariates on mediator and outcome. Model 6 = Between-partners; SO T1 → SM T2 → SM T3, with SM covariates on mediator and outcome. Model 8 = Between-partners; SM T1 → SO T2 → SO T3, with SO covariates on mediator and outcome.





*Figure 4.* Box plot of sociodemographic risk variable as part of post-hoc analyses. While potential scores range from 0 (least risk) to 16 (most risk), actual range in present study is 2 to 14.

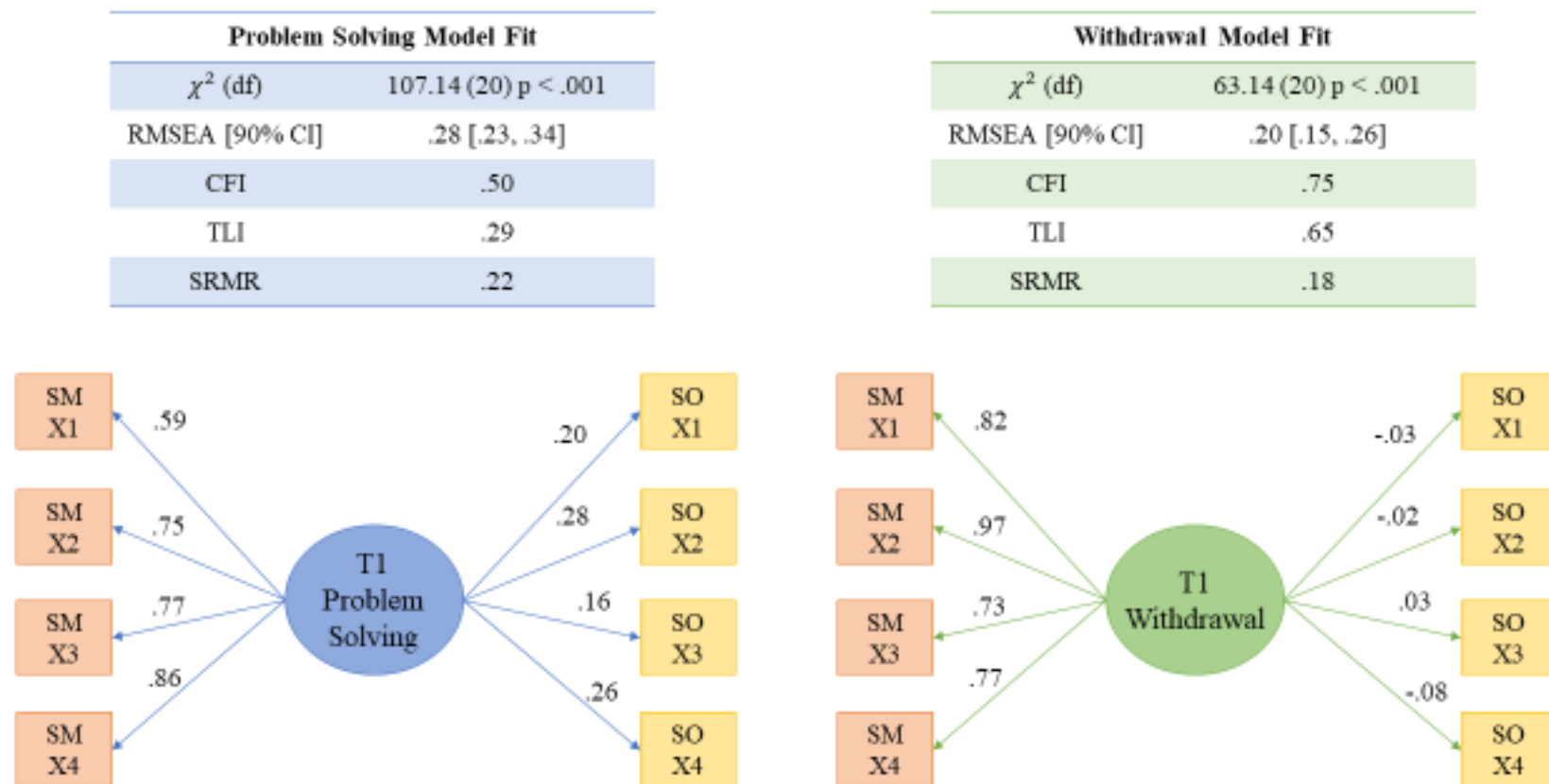


Figure 5. Standardized factor loadings and model fit statistics for dyadic latent variable.  
See Appendix B for wording of each item

## **DISCUSSION**

Wartime deployments can be stressful for families as role responsibilities shift to accommodate service members' absence from and then re-entry into the household (Bowling & Sherman, 2008). While research has documented challenges in reorganizing and negotiating family roles, less is known about the processes through which roles are (un)successfully negotiated during reintegration. The present study utilized concepts from family systems and life course theories to examine these experiences from a perspective of hierarchical, nested temporal rhythms. Guided by family resilience (Walsh, 2016) and model of military marriage (Karney & Crown, 2007), frameworks I investigated communication processes because evidence suggests that deployment can impact couple communication, which can subsequently challenge or enhance couple functioning during reintegration (Knobloch et al., 2016). I hypothesized that communication at two distinct but related temporal rhythms—established communication patterns and daily communication strategies—would contribute to successful role negotiation across the first eight months of reintegration. Overall, I did not find support for my hypotheses after accounting for certain covariates, in particular, earlier role negotiations, relationship happiness, and relationship length. Despite the lack of statistical support, findings suggest that there is an interplay between temporal rhythms that warrants further attention. In addition, results indicate that researchers should investigate participant retention in longitudinal research studies. To better understand the findings of this study, I will summarize results before contextualizing findings within existing literature and limitations. I will conclude with a discussion of future directions and reflect on the utility of investigating family life at different rhythms.

### **Summary of Results**

Path analyses evaluated research questions that examined the contributions of established communication patterns and daily communication strategies to later role negotiations. The first four models tested the predictive power of established patterns for later role negotiations. Within individuals, service members', but not significant others', general tendency to engage in problem solving behaviors was associated with their perceptions of easier role negotiations five months later. In contrast, significant others', but not service members', tendency to withdraw during

conflicts was associated with perceptions of more difficult later role negotiations. The addition of the covariates, namely earlier role negotiations and relationship length, nullified these associations. Between partners, I found no evidence to suggest that individuals' reports of their own established communication patterns predicted their partners' experiences in negotiating household roles.

The final four models tested daily communication strategies as one mechanism linking established communication patterns with role negotiations. Service members' general tendency to engage in problem solving behaviors was associated not only with more competent daily communication exchanges, but also easier role negotiations. For significant others, greater use of problem solving predicted more competent daily communication strategies which, in turn, were associated with ease in negotiating roles. The indirect effect for significant others, however, was not statistically significant. As with other models, the addition of the covariates nullified these associations.

Between partners, interesting patterns emerged. When examining associations among significant others' established communication patterns, and service members' daily communication strategies, and role negotiations, significant others' use of problem solving actually predicted greater *difficulty* in service members' role negotiations five months later. This was contrary to my expectations. When service members' established communication patterns predicted significant others' T2 and T3 reports, service members' greater problem-solving behaviors was associated with significant others using more competent daily communication strategies but was unrelated with significant others' role negotiations. Again, I did not find support for the prediction that daily communication was a mechanism through which established communication patterns and role negotiations operated.

Three auxiliary and post hoc investigations highlighted factors relevant to the interpretation of findings. First, and potentially most important, systematic attrition was discovered. Those who were retained in the study reported higher levels of couple functioning, relative to those who did not meet inclusion criteria. The story of these data thus becomes of resilient families in the months following deployment. Second, results from the dyadic latent variable analysis indicated poor fit between partners' established communication patterns. While this could help to explain different patterns of findings for individuals' established communication patterns, it could also reflect methodological limitations in capturing and modeling couples' established patterns. Finally, a

demographic risk variable, aggregated from various individual and couple variables, did not accurately capture risk in the present sample.

### **Resilient Couple Functioning**

Most couples in this sample reported high levels of functioning as reflected in the univariate descriptive statistics. Individuals in the present sample reported general tendencies to engage in frequent problem solving behaviors and infrequent withdrawal during conflict resolutions; displayed high levels of competent daily communication; and reported ease in role negotiations at both time points. These descriptive statistics provide preliminary support that couples in the present sample reported adaptive and resilient processes (Karney & Crown, 2007; Walsh, 2016b). These findings are in concordance with a growing body of literature highlighting the resilience of military families (National Academies of Sciences, Engineering, and Medicine, 2019; Saltzman, Lester, Milburn, Woodward, & Stein, 2016). It is important to note, however, that research has found that deployment-related separations and adjustments can place considerable strain on marital relationships through increased stress or decreased resources available (Tanielian, Karney, Chandra, & Meadows, 2014). As such, it is likely that the interpretation of resilience processes in this sample is a function of the characteristics of couples who remained in the study.

Attrition analyses revealed significant differences between those who met inclusion criteria and those who did not (e.g., left the study). Similar to other longitudinal studies (e.g., Meadows, Tanielian, & Karney, 2016), I discovered associations between participants' characteristics and their persistence in research participation. In this present study, couples were more likely to leave the study when significant others reported 1) greater initial difficulty in role negotiations, 2) less relationship happiness, and 3) less frequent problem-solving, and when service members experienced recent combat exposure. These associations are unsurprising. Existing literature suggests that combat exposure has strong negative impacts not only on service members' well-being (Donoho, Bonanno, Porter, Kearney, & Powell, 2017) but also on couples' marital satisfaction (Karney & Trail, 2017). Two of the three predictors reported by significant others—Time 1 role negotiations and problem solving—were directly related to the processes described by Walsh in her framework, indicating lower levels of relationship resources for those who left the study (Walsh, 2016b). In addition, significant others' inability to manage and facilitate household tasks during deployment has been linked with more negative reintegration experiences for partners

and their children (Clark et al., 2018). After acknowledging factors contributing to sample shrinkage and attrition, this investigation thus became one of families who are doing relatively well following a military deployment. For families in this sample, their experiences at three months following deployment were generally favorable and remained that way across the next five months. Findings from study thus leads to a better understanding of the processes contributing to positive outcomes following deployment.

### **Role Negotiations**

The overarching goal of this study was to examine how couples negotiated roles during reintegration. In general, models did better at predicting service members' role negotiations than significant others, as evidenced at the bivariate level and variance accounted for in the models. Earlier role negotiations had the most consistent effect on later role negotiations across all models, suggesting that families who are high functioning during reintegration tend to maintain this level of functioning.

### **Established communication patterns and role negotiations**

The first research question evaluated the utility of established patterns in predicting ease in role negotiations.

#### ***Within-partners established communication patterns***

Service members' greater use of problem solving behaviors predicted easier role negotiations, whereas for significant others, less withdrawal predicted easier role negotiations. Perhaps problem solving exhibited by service members helped couples transition between communication systems used during deployment to those used in reintegration and thus reduced ambiguity in role expectations. The idea of different communication systems across a deployment cycle was introduced in Faber and colleagues' qualitative investigation of couples across a deployment cycle. Authors found that couples transitioned from a "closed" communication system during, wherein only necessary was shared, to an "open" communication system during reintegration that facilitated the transfer of information between both partners (Faber et al., 2008). As this transition between systems occurred, couples were able to clarify boundaries and

communicate more freely about role expectations and responsibilities (Faber et al., 2008). It is possible that service members' problem solving behaviors reduced ambiguity in role expectations, thus contributing to easier role negotiations, during reintegration.

For significant others, withdrawing from conflicts was the significant predictor of their later role negotiations. One explanation for this different pattern of findings is that significant others might have been hesitant to engage in conflict with service members for fear of isolating their partner (Faber et al., 2008) or of asking too much of their partner too soon (Knobloch et al., 2016). Alternatively, significant others might have avoided certain topics that they were worried might be related to deployment experiences that service members did not want to communicate (Knobloch & Theiss, 2017). The avoidance of or withdrawing from conversations surrounding role negotiations could be a source of tension for significant others, especially if significant others desired for service members to contribute more to the household but did not know how to engage with those conversations (Karakurt et al., 2013).

It is important to note that gender is confounded with these associations: more problem-solving was associated with easier role negotiations for male service members and less withdrawal was associated with easier role negotiations for female significant others. Literature has shown significant differences with regard to individuals' sex and their communication styles, although the effects I found were in opposite directions. For example, Segrin and colleagues (2009) used all four types of typologies from the Conflict Resolution Strategies Inventory (Kurdek, 1994) to examine effects on marital satisfaction in heterosexual newlyweds. Within that study, men and women's withdrawal predicted decreased marital satisfaction for both partners, but only women's problem solving was positively associated with both their own and their partners' marital satisfaction (Segrin et al., 2009).

### ***Between-partners established communication patterns***

Guided by family systems theory (Cox & Paley, 1997), the second hypothesis predicted that individuals' established patterns would affect their *partner's* later role negotiations. I did not find evidence to suggest cross-over effects between individuals' established communication patterns and their partners' later role negotiations. Statistically, this finding is unsurprising given that there were low correlations between partners' established communication patterns and role negotiations at either time point. Theoretically, it is surprising that members of a system are not

linked, especially given their established nature. One possible explanation for this surrounds shifts between independence and interdependence across a deployment cycle. When partners are separated during a deployment and then reunited, they must shift from independence to interdependence, from a closed system to an open system (Karakurt et al., 2013; Riggs & Riggs, 2011). This claim of interdependence should be further examined, however, as associations with covariates suggested that couple processes were established and likely predictive of other couple processes.

### ***Covariates and role negotiations***

While models indicated that problem solving and withdrawal behaviors were associated with (un)easy role negotiations, these associations disappeared after accounting for earlier role negotiations and relationship length. In most models, greater ease in earlier role negotiations predicted easier role negotiations five months later. This suggests that established communication patterns could be an artifact of stability couples' effective role negotiations. Taken together with service members' Time 1 correlations, these findings suggest that circumstances when service members return from deployment are good predictors of their own and their partners' later functioning in resilient families. Interestingly, such bivariate patterns were not present for significant others, indicating that service members' contributions during reintegration might be the "driving force" for both partners. This conclusion is in slight contrast to evidence suggesting that significant others' reintegration experiences are most predictive of other members' well-being (Clark et al., 2018). One explanation for this divergence could be related to attrition such that these significant others' characteristics differed between samples.

Significant associations between relationship length and easier role negotiations indicated that it was easier for couples to renegotiate roles during reintegration when they had been together longer. This finding is consistent with research indicating that longer, more established relationships are less likely to be distressed, compared to less-established relationships (Anderson et al., 2011). As systems progress throughout the life course, interdependence between partners can increase as their lives become more "linked" (Cox & Paley, 1997; Elder, 1985). It is thus very likely that couples in this study had robust established patterns of interactions and experienced less variability in processes occurring at faster rhythms. This finding is further supported by the model of military marriage, which lists relationship length as a marital resource. Within this framework,



it is theorized that more established couples (i.e., those with longer relationship lengths) would be able to maintain their interdependence despite disruptions (Karney & Crown, 2007). Given the established nature of these couples, it is possible that couple processes during reintegration were relatively unaltered by deployment. It follows then, that for couples with less established relationship processes, reintegration is possibly more turbulent and there is more variability within exchanges. This argument is supported by recent work that suggests younger couples (in terms of age and relationship length) experience more variation in relationship quality and daily exchanges than those in more established relationships (Totenhagen et al., 2016). As such, there are likely different pathways through which couples experience reintegration based on their relationship resources, although this claim needs more empirical evidence.

### **Daily communication as a mediator**

Applying notions of temporal rhythms to Walsh's family resilience (2016b) and Karney & Crown's model of military marriage (2007) frameworks, I predicted that established communication patterns would be indirectly associated with later role negotiations through the use of competent daily communication strategies. Across all models, I did not find evidence to suggest that established communication patterns indirectly affected role negotiations through the use of competent daily communication. Despite the lack of statistical significance, findings from these models allude to an interplay between multiple rhythms of family life for military couples during reintegration.

### ***Within partners***

Problem solving (but not withdrawal) significantly predicted both individuals' daily communication strategies, such that individuals who endorsed more frequent problem solving behaviors also reported higher levels of daily communication competency. In other words, there was a small relationship between established patterns at slower rhythms promoting later exchanges at faster rhythms. Interestingly, this pattern of findings is in contrast to a longitudinal investigation of newlywed couples who reported their established communication patterns and daily communication strategies (Li et al., 2018). While each partners' daily communication predicted their own conflict resolution behaviors a year later (i.e., faster rhythm predicting slower rhythm),

no evidence emerged for the reverse association. That is, individuals' conflict resolution behaviors did not predict daily communication strategies (for either themselves or their partner) the following year. This contrast in findings can be explained by differences in the samples. Couples in the Li et al. investigation were newlyweds who were married for about one year whereas couples in the present sample had been together for about one decade. When relationships are being negotiated at the beginning, perhaps the interactions at faster rhythms set the course for slower patterns to develop. In other words, it is possible that newer couples are less established and patterns have not yet "settled in." In contrast, for relationships that are more developed, such as those in this sample, patterns at slower rhythms could be constraining or typifying exchanges at faster rhythms. While this claim requires more empirical investigation, the contrast between these two studies could illuminate pathways through which relationships patterns are developed within and between temporal rhythms.

### ***Between partners***

An interplay between individuals' established patterns and their partners' daily communication strategies emerged between partners, albeit inconsistently. Service members' greater frequency of problem solving behaviors predicted their partners' daily communication competence a week later. Thus, when service members were better problem solvers, their partners were more likely to engage in appropriate and effective daily communication exchanges. In contrast, significant others' established patterns were not associated with service members' daily communication competency. However, once daily communication strategies were added into the model (i.e., comparing Models 3 and 7), a counter-intuitive finding emerged: significant others' problem solving was now associated with greater difficulty for service members' role negotiations. While this was contrary to my expectations, one potential explanation for this could be that they were actively engaging in problem solving, rather than shoving things under the rug. It is possible that this is indicative of demand/withdrawal patterns wherein significant others keep attempting to solve a problem but service members avoid it. Research has also highlighted that communication can become more strained and effortful during reintegration (Knobloch et al., 2016), which could contribute to significant others trying harder to problem solve despite a disconnect with service members' perceptions or reception. Alternatively, perhaps this finding is indicative of significant others interfering with service members' goals or routines, thus making it harder for them to

reintegrate successfully into the family (Knobloch et al., 2016). Regardless of the explanation for this association, it is clear that dyadic communication processes during family transitions and between temporal rhythms are complex.

As a component of the mediation models, I also examined the role of daily communication in later role negotiations. Significant others' greater use of competent daily communication was positively associated with easier role negotiations for both partners. No evidence emerged, however, for service members' daily communication strategies and later role negotiations. Taken together, these findings hint at dynamic feedback loops occurring both within and between individuals and temporal rhythms. Service members' slower processes predicted both partners' exchanges at faster rhythms, whereas significant others' faster processes predicted both partners' slower rhythms. While these findings are not conclusive or exhaustive, they suggest the importance of adopting a hierarchical view of time to examine couple processes.

### ***Covariates and daily communication strategies***

Relationship happiness was the most robust predictor of service members' daily communication competence. Literature has highlighted bidirectional links between relationship satisfaction and communication strategies, such that those who are happier in their marriage engage in more effective and positive communication (e.g., Bradbury, Fincham, & Beach, 2000; Lavner, Karney, & Bradbury, 2016). Within the context of temporal rhythms, I found that service members' relationship happiness was a robust predictor of only their daily communication strategies and not their established communication patterns. In contrast, neither relationship happiness nor any other covariate predicted significant others' daily communication strategies. One potential explanation for lack of significant findings for relationship happiness could surround systematic differences in samples. Perhaps variability in relationship happiness was reduced as a function of those who left the study. This claim, however, remains to be tested within this study in order to strengthen the plausibility of this explanation. For example, descriptive statistics can be examined to see whether standard deviations differ between those who were included and those excluded from the present study.

## **Post Hoc Analyses**

### **Demographic risk variable**

Results from the post hoc examination of demographic risk factors on individuals' role negotiations indicated that there was not a relationship between cumulative risk and the negotiation of household roles. This is unsurprising given that relationship length was the only variable included in this score that was uniquely associated with role negotiations. Thus, it is possible that the seven non-significant covariates "washed away" the effects of relationship length. Alternatively, as evidenced by descriptive statistics and results from the attrition analyses, it is possible that the present sample represents low levels of cumulative risk. Perhaps evaluating only demographic risk, without considering potential protective factors, could explain why this variable was not predictive of the couples' role negotiation experiences. For example, when considering risk and protective factors in isolation, MacDermid Wadsworth and colleagues (2016) determined that risk had more substantial impacts on children's development. When they examined interactions between risk and protective factors, however, they found that protective factors were especially salient in contexts of high risk (MacDermid Wadsworth et al., 2016). Alternatively, perhaps the inclusion of variables other than demographic variables (e.g., mental health, family functioning, community factors; MacDermid Wadsworth et al., 2016) would provide a more valid measure of risk and protective factors in the present sample.

Another explanation for non-significant associations between demographic risk and role negotiations relates to measurement issues. While some evidence suggests that aggregating across multiple variables enhances the validity of the measurement by reducing measurement error (Rushton, Brainerd, & Pressley, 1983), it is possible that meaningful variability in risk was concealed by aggregating scores. Heterogeneity within any measure is lost when dichotomous or categorical variables are created. Alternatively, it is possible that the variables included in this aggregate variable were not actually measuring risk in the sample, as evidenced by poor internal consistency of this variable. Finally, as measures were not standardized before creating the composite risk score, variables were on different scales. While I had attempted scale each variable to be on a 0 to 3 range (results available upon request), certain variables did not lend themselves to this scaling (e.g., service member paygrade: enlisted vs. officer) and thus inflated differences between levels of this variable. It is thus important to ask whether differences between levels of risk are equal across variables. For example, is the birth of a child (i.e., moving from a '0' to a '1')

equal to the experience of one more combat deployment, or the reduction in gross annual income by \$15,000?

A final explanation for non-significant findings pertains to the salience of demographic risk within certain populations. The four examples of demographic risk variables utilized in the present paper examined the impact of parental and individual risk on child development, ranging from infants to adolescents (Kochanska et al., 2007; Lucier-Greer et al., 2014; MacDermid Wadsworth et al., 2016; Taylor et al., 2013). It is possible that demographic risk—as conceptualized as both capital and context-specific risk—is more important for children’s outcomes than the functioning of adult relationships.

### **Established patterns as a latent variable**

In an attempt to model established communication patterns as dyadic processes, I fit a latent variable using both partners’ reports of their own problem solving and withdrawal subscales. Model fit statistics indicated that both partners’ reports of the subscales (at the item- and mean-levels) did not cohere. This was unsurprising given the low correlations between partners’ established communication patterns. In a study of newlywed couples who completed both self- and partner-reports of the Conflict Resolution Strategies Inventory (Kurdek, 1994), investigators found that couples were interdependent with regard to their problem solving but not their withdrawal strategies, as evidenced by bivariate correlations (Segrin et al., 2009). Established communication patterns, however, do not require that both partners use the same types of communication. For example, perhaps it is important for partners’ communication patterns to be complementary strategies rather than the same.

### **Limitations**

The findings from this study should be evaluated with its limitations in mind. First, aside from some covariates, most variables were collected in the months following a deployment. It is possible that the stress of deployment had already run its course on couples’ exchanges or patterns during reintegration. For example, some evidence suggests that the largest transitions within couples occurred within the first six weeks of being home (Karakurt et al., 2013). As such, the measurement of some variables approximately three to eight months after service members’ return

could be concealing the full range effects that deployment-related transitions can elicit on couples' functioning at multiple time scales.

Second, averaging daily scores into a single composite score likely concealed variability in individuals' reports of communication across the days. Because deployment might disrupt daily processes (Marini et al., 2018), the variability of communication within and across days provides a deeper understanding of couple dynamics during reintegration. Additionally, fully utilizing the strengths of repeated daily measures would allow for researchers to examine "life as it is lived" (Bolger, Davis, & Rafaeli, 2003) as well as modeling pathways between daily exchanges and long-term development (Bai & Repetti, 2015).

Third, while some models included data from both partners, the present study was unable to fully address the reciprocity and mutual influence between partners. For example, while I tested whether individuals' established communication patterns predicted their partner's daily communication, examining these associations in isolation (i.e., in separate models) did not control for the complex associations between both partners' predictor and outcome variables in the same model. In addition, because communication is innately dyadic as partners create patterns in each other's inputs and responses (Canary, 2003), I attempted to model a more dyadic conceptualization of communication in a latent framework. Results from the dyadic latent variable, however, reflected that the measures used were measuring something at the individual level rather than the dyadic level. In conjunction with results from the path analyses, results do not suggest the presence of couple-level processes (Iida, Seidman, & Shrout, 2018; Kenny & Ledermann, 2010). In other words, I was unable to fully account for the interdependence in individuals' experiences across the models.

Another limitation surrounds measurement of the substantive variables. In this study, only two established communication patterns were measured: problem solving and withdrawal. Utilizing multiple subscales or measures of couple communication might be able to examine the effects of different effective or ineffective strategies (e.g., ineffective arguing). As evidenced by other models of couple communication and conflict resolution typologies (Guerrero, 2020; Overall & McNulty, 2017), a more dynamic, multidimensional conceptualization of conflict resolution styles might lead to different results. These models take into account a variety of behaviors, including facilitative or disruptive strategies, to better capture the complexities of dyadic patterns and multiple behaviors. Individuals' perceptions of role negotiations were also measured as an

established pattern, which could be potentially concealing negotiations that might be occurring at faster temporal rhythms. Evidence suggests that roles are frequently renegotiated across reintegration as couples experience new life transitions such as returning to work or the birth of a child (Karakurt et al., 2013). As such, it's possible that the measurement of role negotiations did not capture changes occurring in the moment-to-moment fluctuations during reintegration. In addition, I relied upon self-report data (and not partner reports or third-party observers), which likely contributed to biased measurement of communication exchanges or role negotiations (Lebow & Stroud, 2012).

Last, it is important to note certain limitations of the sample. Given the small sample size, it is likely the models were underpowered to detect small effects. While small to moderate effect sizes emerged in some models, power remains a major concern. Across models with different covariates, the strength of some associations did not change although the confidence intervals fluctuated and changed the statistical significance interpretation. Given the inconsistent conclusions for these associations, effects should be re-evaluated after accounting for multiple tests, such as Benjamini-Hochberg or Bonferroni adjustments, to account for altered probabilities due to running 24 models (Chen, Feng, & Yi, 2017). Accounting for multiple testing might help to explain why some estimates became significant (i.e., confidence intervals altered slightly around zero) in versions with different numbers variables. Additionally, the present sample systematically differed from couples in the larger study, largely due to the timing of daily data bursts starting mid-way through the project. Sophisticated statistical techniques such as multiple imputation or full-maximum information likelihood can help retain participants' data despite such attrition, although the number of participants who were ineligible due to the timeline for the Time 2 daily data bursts warrants consideration. While attrition probably biased estimates and standard errors, the use of appropriate missing data analyses could reduce such bias (Graham, 2012). Finally, the present sample largely consisted of white individuals in heterosexual and established relationships, limiting the generalizability of these findings to samples more representative of the military population demographics (Office of the Deputy Under Secretary of Defense, Military Community and Family Policy (ODASD (MC&FP)), 2017).

## **Future Directions**

Results from this study highlight fruitful directions. Future work should examine the development or disruption of patterns occurring at multiple time scales to better understand the experiences of military families across deployment transitions. While the present study examined military couples during reintegration, future research should examine how established patterns and daily strategies operate prior to and during deployment. Longitudinal data that can trace potential disruptions in couples' patterns prospectively will provide a deeper understanding of how multiple rhythms interact in tandem across transitions. Such investigations are comparable to Karney and Crown's framework that highlights individuals' preexisting conditions (e.g., personality, experiences before the relationship transition) as being central to later relationship functioning (Karney & Crown, 2007). These investigations can determine factors might disrupt established patterns or cause variability within daily strategies throughout a deployment cycle.

Future investigations can also utilize a multilevel modeling (MLM) framework to better address the interdependence between partners across time. MLM accounts for the nested nature of the data (i.e., days nested within individuals nested within couples) and can partition the variance into individual or dyadic components (i.e., between- and within-couple variation). A benefit of using MLM with longitudinal methodology is that researchers can examine within-person or within-couple research questions while examining how parameters differ between-people or between-couples (Bolger & Laurenceau, 2013). In addition, daily dyadic MLM allows for the estimation of concurrent (i.e., same day) and lagged (i.e., next day) effects both within-person and between-partners (Laurenceau & Bolger, 2005). As such, analyzing data from both partners allows for the investigation of directional interdependencies within individuals, between partners, across time scales, and the interactions between each level of analysis, as previous studies have done (e.g., Li et al., 2018; Story & Repetti, 2006). For example, future investigations could use multilevel modeling to understand how daily communication between partners unfolds, and how these exchanges impact role negotiations both concurrently and longitudinally. In particular, researchers should examine daily fluctuations in communication during reintegration, as evidence suggests that more volatility in communication during deployment could be potentially problematic (Wilson et al., 2017).

There are many interesting avenues regarding multiple temporal rhythms and broader systems components. Conceptualizations and operationalization of temporal rhythms should be



expanded to include varying rhythm speeds, such as faster rhythms encompassing physiological or moment-to-moment changes, to much slower rhythms, such as life course trajectories or historical time periods (Elder, 1994). While research methodologies have begun to capture faster and slower rhythms in a family context (e.g., Repetti, Reynolds, & Sears, 2015), research has yet to examine the full extent of the interplay between multiple rhythms and how these operate within interdependent family systems. As military deployments can be stressful for children and strain parenting relationships (Creech, Hadley, & Borsari, 2014; Knobloch, Basinger, et al., 2016), broadening the scope to incorporate experiences of all members within a family members system is warranted. This avenue is especially promising as new technology (e.g., smartphones) can validly collect self-reported daily experiences from children as young as 6 years old (Rönkä, Sevón, Räikkönen, & Hintikka, 2017).

### **Implications**

Results from this study have implications for clinicians serving and researchers studying families experiencing disruptions. Couples in this sample were established (e.g., reported longer relationship lengths) and generally reported high levels of resilient family functioning. What can these families teach us about resilient family processes? First, individuals' general tendency to utilize problem solving behaviors during conflicts, especially male service members, was associated with greater daily communication competency and easier role negotiations. Productive and effective problem solving might be one mechanism through which service members can feel engaged and valued by their partners upon return from deployment (Clark et al., 2018). Secondly, significant others who displayed higher levels of daily communication competency had positive impacts on both partners' role negotiations. Outside the context of conflicts, results suggest that the use of effective daily communication strategies, such as active listening or clear communication, contributes to better family functioning across reintegration. In addition, earlier role negotiations were the most robust predictor of later role negotiations indicating that early experiences during reintegration can set the course for couples. Reintegration briefings held by the National Guard upon service members' return from deployment could emphasize effective couple processes, including open, collaborative communication while educating couples about negative effects of withdrawal, particularly for women. In addition, this pattern of findings suggests that predeployment data could be predictive of couples' experiences during reintegration. Said another

way, military couples might benefit from programming prior to deployment that emphasizes problem solving and competent daily communication to effectively negotiate roles across the deployment cycle.

From a research perspective, attrition should be thoroughly analyzed in longitudinal studies. While studies with stratified random sampling techniques have been able to adjust for non-response amongst participants (e.g., Meadows et al., 2016), researchers working with data originating from different sampling methods should consider not only investigating and reporting attrition, but also re-weighting data to account for participants who leave the study.

## **Conclusion**

Taken together, results are not consistent with the proposition that daily communication strategies, as studied here, are influencing later role negotiations. Despite null associations for couples in this sample, this investigation provides a glimpse into the intersection between daily strategies and longer, enduring patterns of interaction. Several discussion points emerged as a function of the results including the relevance of different temporal rhythms across family transitions, the processes through which rhythms develop or become disrupted, and a holistic representation of family systems including their processes, potential, and risk factors.

Couples in this sample were largely established, as evidenced not only by relationship length but other demographic variables (e.g., age, number of kids). For these couples with established relationships that reported higher levels of functioning, deployment did not appear to dislodge their patterns enough for daily exchanges to have a robust effect on role negotiations. Within the models, relationship length, earlier role negotiations, and relationship happiness were consistent and strong predictors of processes occurring at both temporal rhythms. As such, this investigation suggests that for couples who are more interdependent and established, deployments might not be as tumultuous as for others. Said another way: it is likely that communication strategies, role negotiations, and relationship quality were so intertwined within established patterns for these couples.

Because relationship traits and patterns were so established within this sample, a question arises regarding how less-established, younger couples might fare across a deployment. Research suggests that younger couples with less financial and social resources experience relationship distress in response to a deployment (Allen et al., 2011; Anderson et al., 2011). Perhaps these

relationships experience greater variability in processes occurring at faster rhythms which could contribute to poorer relationship quality (Arriaga, 2001). Deployment is likely challenging and tumultuous for couples that do not have as much relationship history or strong, established patterns to rely upon when transitions become tough.

Somewhere in between these two scenarios—couples who are established and those who are not—lies a program of research that could benefit greatly from an examination of multiple temporal rhythms within interdependent family relationships. How and under what timeframes do established patterns develop? How do exchanges at faster rhythms “pile up” or interact with each other, and how do these contribute to the development of individuals and couples? For couples with established patterns, what does it take to dislodge these patterns to create new ones? Expanding beyond the present studies’ conceptualization of temporal rhythms, what effect do slower rhythms, such as life course trajectories or historical contexts, have on the rhythms of family life? In which contexts does the interplay between faster and slower rhythms become more or less pronounced? Such questions require advanced statistical analyses that can model non-linear changes within individuals, between partners, and across time scales to address.

While the field waits for increased functionalities of statistical analyses, luckily, these concepts are not novel to theoretical frameworks. In addition to life course and family systems theory, dynamic systems theory (Granic, 2005) is especially well-poised to examine variability in processes and associations between multiple timescales. In utilizing these three theoretical frameworks together, researchers would be able to capture and investigate the complex interdependencies between romantic partners and multiple temporal rhythms.

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## APPENDIX A. ROLE NEGOTIATIONS MEASURE

Role Responsibility Adjustment Scale (Orthner & Rose, 2005; Pincus et al., 2001; U. S. Army Community and Family Support Center, 2004)

Since your last interview, how easy or difficult has it been for you and [PARTNER] to make adjustments in each of the following areas?

Using the scale:

**(1) Very Difficult**

**(2) Difficult**

**(3) Neither Easy nor Difficult**

**(4) Easy**

**(5) Very Easy**

**(77) Not Applicable**

**(88) Prefer not to Answer**

1. “Reunion” with family<sup>b</sup>
2. Renegotiating household routines<sup>a</sup>
3. Making household decisions<sup>a</sup>
4. Reestablishing household parenting roles<sup>a,c</sup>
5. Meeting expectations of children<sup>a,c</sup>
6. Relationship intimacy and communication with one another<sup>a</sup>
7. Adjusting to your spouse’s personality/moods<sup>a</sup>
8. Handling family finances<sup>a</sup>
9. Working at/returning to your paid job<sup>a</sup>
10. Giving [PARTNER] “space” (independence)<sup>b</sup>
11. Disciplining/handling your child(ren)<sup>a,c</sup>
12. Assessing changes in self and reevaluating relationship<sup>b</sup>

<sup>a</sup>Items 2, 3, 6, 7, 8, and 9 were taken from the Survey of Army Families V (Orthner & Rose, 2005; U. S. Army Community and Family Support Center, 2004).

<sup>b</sup>Items 1, 10, and 12 were created based on the propositions of the Emotional Cycle of Deployment (Pincus et al., 2001).

<sup>c</sup>Items 4, 5, and 11 are not included in the present analyses as these are only relevant to couples who have children.

## **APPENDIX B. ESTABLISHED COMMUNICATION PATTERNS MEASURE**

Conflict Resolution Styles Inventory (Kurdek, 1994)

The next several questions ask about how you interact with [PARTNER] in a variety of situations.

Using the scale:

- (1) Never**
- (2) Rarely**
- (3) Sometimes**
- (4) Usually**
- (5) Always**
- (88) Prefer not to Answer**

### Problem Solving Subscale

Please indicate how often YOU participate in the following behaviors when trying to solve problems with [PARTNER]:

1. Focus on the problem at hand
2. Sit down and discuss differences constructively
3. Find alternatives that are acceptable to each of us
4. Negotiate and compromise

### Withdrawal Subscale

Please indicate how often YOU participate in the following behaviors after a disagreement with [PARTNER]:

1. Remain silent for a long period of time
2. Reach a limit, “shutting down”, and refusing to talk to anyone
3. Tune the other person out
4. Withdraw, act distant and not interested

### Conflict Engagement Subscale<sup>a</sup>

I will start by asking how you handle disagreements. Please indicate how often YOU participate in the following behaviors during disagreements with [PARTNER]:

1. Launch personal attacks
2. Explode and get out of control
3. Get carried away and say things that aren't meant
4. Throw insults and digs

### Compliance Subscale<sup>a</sup>

Please indicate how often YOU participate in the following behaviors after a disagreement with [PARTNER]:

1. Not willing to stick up for myself
2. Being too compliant
3. Not defending my position
4. Giving in with little attempt to present my side of the issue

<sup>a</sup>Conflict engagement and compliance subscales not included in the present analyses

## **APPENDIX C. DAILY COMMUNICATION MEASURE**

Daily Communication Competency (Guerrero, 1994)

As you think about the conversations you had with your partner in the last 24 hours, please rate your agreement with each of the following statements.

Using the scale:

- (1) Not At All True**
- (2)**
- (3) Sometimes True**
- (4)**
- (5) Very True**
- (88) Prefer not to Answer**

1. I was a good communicator.
2. I was a good listener.
3. I did not solve problems effectively.<sup>a</sup>
4. My communication was appropriate for the situations at hand.
5. It was hard for me to communicate my feelings clearly.<sup>a</sup>

<sup>a</sup>Items 3 and 5 were reverse coded

## APPENDIX D. COVARIATES

Table A.1. *Table of Covariates*

<i>Construct</i>	<i>Prompt</i>	<i>Scale<sup>a</sup></i>	<i>Cleaning Steps</i>
<b>Individual</b>			
Age	What is the month and year of your birth?	Open response (MM DD YYYY)	Created accurate values at T1 using length between T0 and T1 interviews to account for methodological sample differences.  Unable to recover missing data so missing for 3 SM and no missing for SO.
Education level	What is your highest level of education completed?	Less than 12 <sup>th</sup> grade (0) H.S. graduate (1) Technical degree (2) Some college credit (3) Associate's degree (4) Bachelor's degree (5) Graduate degree (6)	If missing at T1, scores were imputed from individual reports at T0.  Cleaned for 7 SM and 9 SO resulting in no missing values for SM or SM.
T1 Role negotiations	See methods section		No missing values.
<b>Relationship</b>			
Relationship happiness	What is your degree of happiness, everything considered, in your relationship?	Very unhappy (1) Extremely happy (10)	No missing values.
Number of children <sup>b</sup>	How many of your children live with you on a regular basis?	Open response	Created accurate values at T1 using auxiliary variables regarding family changes. No missing values.

Table A.1. *Continued*

Relationship length <sup>b</sup>	How long (in total number of years) have you been in a relationship with [GM]?	Open response	Created accurate values at T1 using length between T0 and T1 interviews to account for methodological sample differences.  No missing values.
<b>SM Military</b>			
SM rank <sup>c</sup>	What is the Guard member's current rank / pay grade?	E1 to E3 (0); E4 to E6 (1); E7 to E9 (2); W1 to W5 (3); O1 to O3 (4); O4 to O5 (5)	If missing at T1, scores were imputed from individual reports at T0.  Cleaned for 2 SM, result in no missing values.
Deployment length	What month, day, and year did the Guard member return home from this most recent deployment?	Open response (MM DD YYYY)	Unable to recover missing data, so missing for 7 SM.
Time since return		Calculated from service member departure date, return date, and field interview dates	Unable to recover missing data, so missing for 3 SM.
Recent combat exposure <sup>c</sup>	Now I will ask some specific questions about this deployment. How many times have you had each of the following experiences?	Never (1) 1 – 3 times (2) 4 – 12 times (3) 13 – 50 times (4) 51+ times (5)	No missing values.

<sup>a</sup>All constructs had not applicable, prefer not to answer, and do not know response options<sup>b</sup>Significant other report<sup>c</sup>Service member report

## APPENDIX E. ROLE NEGOTIATIONS DESCRIPTIVE STATISTICS

Table A.2. *Descriptive Statistics for Self-Reported Role Negotiations<sup>a</sup> at T1 and T3*

	<i>Service Members (n = 54)</i>				<i>Significant Others (n = 54)</i>			
	<i>T1</i>		<i>T3</i>		<i>T1</i>		<i>T3</i>	
	<i>M (SD)</i>	<i>Range</i>	<i>M (SD)</i>	<i>Range</i>	<i>M (SD)</i>	<i>Range</i>	<i>M (SD)</i>	<i>Range</i>
<b>Role negotiations composite score<sup>b</sup></b>	3.83 (0.66)	2.63 – 5.00	3.74 (0.69)	2.22 – 5.00	3.84 (0.66)	2.22 – 5.00	3.67 (0.61)	2.44 – 5.00
“Reunion” with family	4.24 (0.76)	1.00 – 5.00	4.02 (0.87)	2.00 – 5.00	4.24 (0.82)	1.00 – 5.00	4.17 (0.76)	2.00 – 5.00
Renegotiating household routines	3.74 (0.98)	2.00 – 5.00	3.75 (0.90)	2.00 – 5.00	3.50 (1.11)	1.00 – 5.00	3.34 (1.02)	1.00 – 5.00
Making household decisions	3.70 (0.94)	1.00 – 5.00	3.91 (0.86)	2.00 – 5.00	3.93 (0.93)	2.00 – 5.00	3.83 (0.88)	2.00 – 5.00
Relationship intimacy and communication with one another	3.91 (1.14)	1.00 – 5.00	3.68 (0.94)	2.00 – 5.00	3.91 (1.14)	1.00 – 5.00	3.64 (0.96)	2.00 – 5.00
Adjusting to your spouse’s personality/moods	3.59 (1.07)	1.00 – 5.00	3.43 (1.03)	1.00 – 5.00	3.50 (0.99)	2.00 – 5.00	3.47 (1.05)	1.00 – 5.00
Handling family finances	3.94 (1.05)	1.00 – 5.00	3.75 (1.07)	1.00 – 5.00	3.94 (1.00)	1.00 – 5.00	3.74 (1.13)	1.00 – 5.00
Working at/returning to your paid job	3.88 (0.93)	2.00 – 5.00	3.71 (1.05)	1.00 – 5.00	3.93 (0.87)	2.00 – 5.00	3.72 (0.86)	2.00 – 5.00
Giving [PARTNER] “space” (independence)	3.81 (0.90)	1.00 – 5.00	3.74 (0.96)	1.00 – 5.00	3.89 (0.87)	2.00 – 5.00	3.72 (0.91)	2.00 – 5.00
Assessing changes in self and reevaluating relationship	3.70 (0.93)	2.00 – 5.00	3.70 (0.80)	2.00 – 5.00	3.68 (0.83)	2.00 – 5.00	3.43 (0.89)	2.00 – 5.00
<b>Not included in composite score</b>								
Parenting items <sup>c</sup>								



Table A.2. *Continued*

Reestablishing household parenting roles	3.60 (1.01)	1.00 – 5.00	3.66 (0.87)	2.00 – 5.00	3.23 (1.28)	1.00 – 5.00	3.53 (1.10)	1.00 – 5.00
Meeting expectations of children	3.74 (0.95)	2.00 – 5.00	3.85 (0.87)	2.00 – 5.00	3.76 (0.93)	2.00 – 5.00	3.59 (1.00)	1.00 – 5.00
Disciplining/handling your child(ren)	3.61 (0.88)	2.00 – 5.00	3.76 (0.92)	2.00 – 5.00	3.53 (1.18)	1.00 – 5.00	3.40 (1.03)	2.00 – 5.00

*Notes.* Mean (SD) presented. <sup>a</sup>The Role Responsibility Adjustment scale (Orthner & Rose, 2005; Pincus et al., 2001; U. S. Army Community and Family Support Center, 2004) measured individuals' perceptions of how easy or difficult it was to make adjustments in a variety of family responsibilities. Participants used the Likert scale 1 "Very Difficulty", 3 "Neither Easy nor Difficult", 5 "Very Easy" to indicate their experiences. Higher scores indicated greater ease in role negotiations.

<sup>b</sup>Composite scores calculated by averaging nine items; composite score used for analyses. <sup>c</sup>Parenting items were excluded from composite score to accommodate childless couples in sample. Items presented for descriptive purposes.

## APPENDIX F. ESTABLISHED COMMUNICATION PATTERNS DESCRIPTIVE STATISTICS

Table A.3. *Descriptive Statistics for Self-Reported Problem Solving and Withdrawal Established Patterns<sup>a</sup> at T1*

	<i>Service Members</i>		<i>Significant Others</i>	
	<i>M (SD)</i>	<i>Range</i>	<i>M (SD)</i>	<i>Range</i>
<b>Problem solving composite score<sup>b</sup></b>	3.83 (0.66)	2.25 – 5.00	3.89 (0.58)	2.50 – 5.00
Focus at the problem at hand	4.13 (0.62)	3.00 – 5.00	4.11 (0.57)	3.00 – 5.00
Negotiate and compromise	3.89 (0.82)	2.00 – 5.00	3.93 (0.72)	2.00 – 5.00
Sit down and discuss differences constructively	3.54 (0.97)	1.00 – 5.00	3.78 (0.84)	1.00 – 5.00
Find alternatives that acceptable to each of you	3.78 (0.77)	2.00 – 5.00	3.76 (0.75)	2.00 – 5.00
<b>Withdrawal composite score<sup>b</sup></b>	1.97 (0.80)	1.00 – 3.50	2.13 (0.69)	1.00 – 4.75
Reach a limit, shut down and refuse to talk	1.94 (0.94)	1.00 – 4.00	2.06 (0.96)	1.00 – 5.00
Withdraw by acting distant and not interested	1.93 (0.93)	1.00 – 4.00	2.15 (0.94)	1.00 – 5.00
Remain silent for long periods of time	2.28 (1.02)	1.00 – 4.00	2.31 (0.91)	1.00 – 5.00
Tune your significant other out (	1.72 (0.83)	1.00 – 4.00	1.98 (0.84)	1.00 – 4.00

*Notes.* Mean (SD) presented. <sup>a</sup>The Conflict Resolution Styles Inventory (Kurdek, 1994) is a 16-item self-report measure that measures individuals' frequency of responding in certain ways during a conflict with their romantic partner. Participants use a Likert scale 1 'Never' to 5 'Always' with higher scores indicating greater used of specific responses. The problem solving and withdrawal subscales were used for the current project. <sup>b</sup>Composite scores calculated by averaging all four items within each subscale; composite score used for analyses.

## APPENDIX G. DAILY COMMUNICATION DESCRIPTIVE STATISTICS

Table A.4. *Descriptive Statistics for Self-Reported Daily Communication Strategies<sup>a</sup> at T2 Data Burst*

	<i>Service Members</i>				<i>Significant Others</i>			
	<i>Day 1</i>	<i>Day 2</i>	<i>Day 3</i>	<i>Day 4</i>	<i>Day 1</i>	<i>Day 2</i>	<i>Day 3</i>	<i>Day 4</i>
I was a good communicator.	3.78 (0.90)	4.11 (0.97)	4.15 (0.84)	4.33 (0.85)	4.04 (0.82)	4.02 (1.07)	4.24 (0.87)	4.35 (0.74)
I was a good listener.	3.89 (0.90)	4.20 (0.83)	4.28 (0.74)	4.36 (0.77)	4.30 (0.74)	4.30 (.96)	4.39 (0.71)	4.31 (0.88)
I did not solve problems effectively. <sup>b</sup>	4.22 (0.95)	4.54 (0.84)	4.43 (0.91)	4.33 (1.02)	4.19 (0.93)	4.30 (.94)	4.24 (1.01)	4.56 (0.70)
My communication was appropriate for the situations at hand.	4.33 (0.67)	4.22 (0.90)	4.32 (0.78)	4.38 (1.01)	4.24 (0.91)	4.20 (.92)	4.22 (0.98)	4.40 (0.69)
It was hard for me to communicate my feelings clearly. <sup>b</sup>	3.92 (1.11)	4.24 (1.16)	4.13 (1.29)	4.38 (1.03)	4.02 (1.25)	4.11 (1.27)	3.87 (1.33)	4.37 (0.93)
Average within day <sup>c</sup>	4.03 (0.60)	4.26 (0.68)	4.26 (0.69)	4.36 (0.72)	4.16 (0.67)	4.19 (.71)	4.19 (0.63)	4.40 (0.61)
<b>Average across all days<sup>d</sup></b>	4.21 (.57), [2.15, 5.00]				4.23 (.53), [3.00, 5.00]			

*Notes.* Mean (SD) [Range] presented. <sup>a</sup>The Communication Competency scale (Guerrero, 1994) measured individuals' daily use of communication strategies. Each day, participants were asked to reflect on conversations with their partner in the last 24 hours, and report their level of agreement using the Likert scale 1 "Not At All True", 3 "Somewhat True", and 5 "Very True". Higher scores indicated greater communication competency within the past 24 hours. <sup>b</sup>Items reverse coded. <sup>c</sup>Calculated by averaging all five items *within* day. <sup>d</sup>Calculated by averaging all items *across* days; composite score used for analyses.

## APPENDIX H. DEMOGRAPHIC RISK VARIABLE MEASURES

Table A.5. *Variables Included in Demographic Risk Variable*

Demographic Variable	Scoring	Source
Education (for each individual)	3 = No high school 2 = High school 1 = Some college/associates degree 0 = Completed college or beyond	(Kochanska, Aksan, Penney, & Boldt, 2007; Taylor et al., 2013) <sup>a</sup>
Number of children	2 = More than one child 1 = One child 0 = No children	(Kochanska et al., 2007; Taylor et al., 2013) <sup>b</sup>
Income	3 = Less than \$30,000 2 = \$30,000 – 59,999 1 = \$60,000 – 89,999 0 = More than \$90,000	(Kochanska et al., 2007; Taylor et al., 2013)
Relationship length	3 = Less than 5 years 2 = 5 to 9 years 1 = 10 to 14 years 0 = 15 or more years	Not included in risk variables in previous studies
Paygrade	1 = Enlisted 0 = Officer	(Lucier-Greer, O’Neal, Arnold, Mancini, & Wickrama, 2014) <sup>a</sup>
Number of previous combat deployments (CD) since September 11, 2001, measured at T0	3 = Three or more prior CD 2 = Two prior CD 1 = One prior CD 0 = None	Not included in risk variables in previous studies
Recent combat exposure	1 = Combat exposure 0 = No recent combat exposure	(Lucier-Greer, O’Neal, Arnold, Mancini, & Wickrama, 2014)

<sup>a</sup>Same scaling as original source

<sup>b</sup>Altered scaling to reflect that some couples in this sample were childless

<sup>c</sup>Altered scaling to reflect economic distribution in this sample