

**ASSESSING THE PROCESSES OF FAMILY-TO-WORK SPILLOVER: A  
COMPARISON OF NATIONAL GUARD AT-HOME PARTNERS  
EXPERIENCING MILITARY DEPLOYMENT AND A NON-DEPLOYING  
GROUP**

by

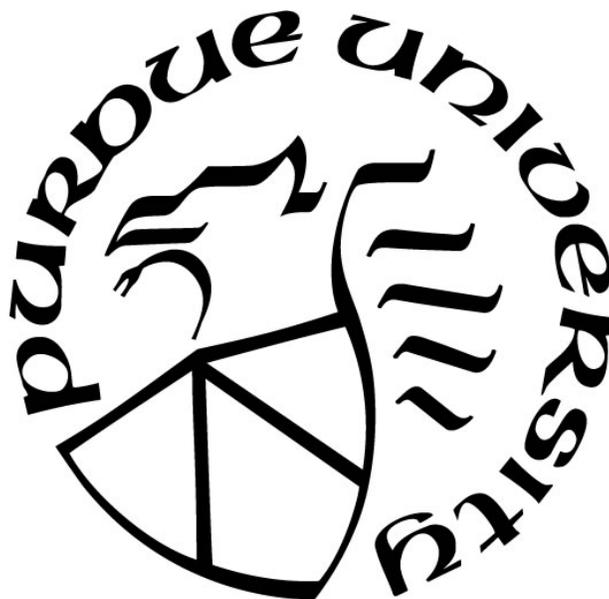
**Christina L. Collins**

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**THE PURDUE UNIVERSITY GRADUATE SCHOOL  
STATEMENT OF COMMITTEE APPROVAL**

Dr. Shelley MacDermid Wadsworth, Chair

Department of Human Development and Family Studies

Dr. Blake Jones

Department of Human Development and Family Studies

Dr. Shawn Whiteman

Department of Human Development and Family Studies

Dr. Ellen Kossek

Krannert School of Management

**Approved by:**

Dr. Melissa Franks

Head of the Graduate Program

*Dedicated to my mother, my encourager-the foundation of support that allowed me to flourish.  
Also to Parker, Ainsley, Opal, and Grant: I made it in spite of you, for you, and because of you.*

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## **LIST OF ABBREVIATIONS**

GM: Guard member

FTW: Family-to-work

WTF: Work-to-family

## ABSTRACT

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Title: Assessing the Processes of Family-to-Work Spillover: A Comparison of National Guard At-Home Partners Experiencing Military Deployment and a Non-Deploying Group

Committee Chair: Shelley MacDermid Wadsworth

Scholars have characterized as “extreme” the intersection of work and family in military service (MacDermid Wadsworth & Southwell, 2011) and periods of deployment involve further stress for partners of military members (e.g. Not having enough personal time, having too many responsibilities at home, changing marital roles, and parenting hassles) that may make managing both work and family life more difficult (Chandra et al., 2011). Research with partners of deployed service members has focused primarily on mental health (Donoho et al., 2018; Mansfield et al., 2010) as well as parenting and household responsibilities (Chandra et al., 2011), but less is known about partners’ employment related outcomes. In the current study, both role strain and role enhancement processes were tested over time in a sample of employed partners of deployed Army National Guard Members (GMs) and a comparison group composed of partners of non-deploying GMs. In accordance with theories of work-family conflict (Greenhaus & Beutell, 1985) and resource drain theory (Rothbard, 2001), a model utilizing two waves of data was tested; household challenges experienced by at-home partners were hypothesized to be related to more negative family-to-work spillover, and ultimately associated with less job engagement and more depressive symptoms. In addition theories of work-family facilitation (Grzywacz & Butler, 2005) and work-family enrichment (Greenhaus & Powell, 2006) were utilized to test whether family strengths (e.g. effective family functioning and military spouse role satisfaction) in the face of deployment were associated with positive FTW spillover, and ultimately with more job engagement and fewer depressive symptoms. Results revealed that household challenges were related to more negative family-to-work spillover, more depressive symptoms, and less job engagement. Effective family functioning was related to more positive FTW spillover, which was related to more job engagement. Results were consistent across the deploying and non-deploying group with the following exception: in the deploying group only, negative FTW spillover was associated with more depressive symptoms. The current study has implications for the field of work and family

research, employers, and military family service providers. First, the current study provided evidence of cross-domain work-family conflict and work-family enrichment in a sample of partners of National Guard members. Second, the study highlighted numerous consequences for employees facing significant household challenges. The role of household challenges in employees' lives may have implications for how employers should structure workplace culture and the employee supports they offer. Finally, only partners of deployed GMs experienced more depressive symptoms associated with negative FTW conflict. Military family service providers may use that information to better serve partners of deploying service members who are at risk of mental health concerns during deployment.

## INTRODUCTION

Scholars have characterized as “extreme” the intersection of work and family in military service (MacDermid Wadsworth & Southwell, 2011) due to stressors accompanying the military member’s occupation that potentially cross over to the partner including long working hours; frequent separation, sometimes with little notice and limited communication; environmental stressors during training and missions; and geographic mobility for active component families. Periods of deployment involve further stress for partners of military members that may make managing both work and family life more difficult. For example, partners of deployed service members take on additional roles and responsibilities. Not having enough personal time, having too many responsibilities at home, changing marital roles, growing apart from their partner, and parenting hassles due to children’s problematic behavior at school and at home comprise some of the most commonly reported challenges facing spouses during deployment (Chandra et al., 2011). Employed partners of military members may experience challenges balancing work and family under the pressures of military life, especially during deployment.

Research with partners of deployed service members has focused primarily on mental health (Donoho et al., 2018; Eaton et al., 2008; Lester et al., 2010; Mansfield et al., 2010) as well as parenting and household responsibilities (Chandra et al., 2011), but less is known about partners’ employment related outcomes. Literature reviews (Cozza, Chun, & Polo, 2005; Drummet, Coleman, & Cable, 2003; McFarlane, 2009) have provided valuable information on military family outcomes related to deployment, but do not offer information regarding partners’ work lives during deployment, highlighting the dearth of empirical information available. However, a study of active duty Army spouses found that roughly 1 in 5 spouses perceive deployment-related problems with their jobs, including having to stop working or work fewer hours, especially among spouses of personnel on extended deployments (28%; Steelfisher, Zaslavsky, & Blendon, 2008). Employed spouses of deployed service members experience additional parenting and household responsibilities alongside their job, all within the emotional context associated with having a spouse deployed. Resource drain theory (Rothbard, 2001) and scarcity hypotheses (Goode, 1960) would predict that increasing household demands may result in difficulties enacting both the work and family roles during deployment. Alternatively, or in addition, a role enhancement perspective (Barnett & Hyde, 2001) would suggest that satisfaction

in the role of military spouse and positive experiences at home could lead to engagement in both home and work roles. For example, spouses may feel energized or empowered by their experiences.

In the current study, both role strain and role enhancement processes were tested over time in a sample of partners of deployed Army National Guard Members (GMs) and a comparison group composed of partners of non-deploying GMs. The household and family challenges described by scholars for at-home partners during deployment (Chandra et al., 2011) may spill over to work, with implications for employees' job engagement and mental health. In accordance with theories of work-family conflict (Greenhaus & Beutell, 1985) and resource drain theory (Rothbard, 2001), I tested a model utilizing two waves of data where household challenges experienced by at-home partners were hypothesized to be related to more negative family-to-work spillover, ultimately associated with less job engagement and more depressive symptoms. In addition to conflict-centered perspectives of work and family, theories of work-family facilitation (Grzywacz & Butler, 2005), and work-family enrichment (Greenhaus & Powell, 2006) provide valuable insights into how family strengths may spill over in a positive manner to work, with implications for partners' job engagement and depressive symptoms. In the current study, I also evaluated whether family strengths (e.g. effective family functioning and military spouse role satisfaction) in the face of deployment were associated with positive family-to-work spillover, and ultimately with more job engagement and fewer depressive symptoms. By evaluating both family strengths and challenges as they related to positive and negative spillover, the current study tested both theories of role strain and role enhancement in a study of employed partners of GMs.

The experience of deployment offers a unique context from which to study both work-family conflict and work-family enrichment. Partners of deployed service members experience more household challenges and may struggle with children's behavior and emotions (Chandra et al., 2011). The at-home partner must suddenly complete all household tasks as well as childcare, including many things they may have shared with their partner previously. Alongside the increased responsibilities, their employment demands remain the same. Within the context of finite resources, the at-home partner must meet additional demands. If the family has children present, children's emotion and behavior challenges may also be an example of increased role demands. There is potential for work-family conflict and role strain for partners of deployed

service members. Alternatively, families experience positive outcomes associated with deployment including increased self-confidence, pride and fulfillment in their role, often increased income, and growing independence (Casteneda et al., 2008). These positive changes may increase resources to meet role demands and allow for individual enrichment to spillover from family to work or from work to family. The positive experiences related to deployment at home may transfer to work for the at-home partners. The at-home partner may tackle their challenges at home and experience those feelings of independence and fulfillment, which may improve their work life as an employee. There is potential for both processes of work-family conflict and enrichment for partners of deployed spouses.

Understanding the labor demographics of military spouses provided context for the current study. Demographic reports indicate that 47% of active duty spouses are employed in the civilian labor force, 39% are not in the labor force (not seeking work), and 14% are in the civilian labor force but currently unemployed (seeking work; Deputy Assistant Secretary of Defense (Military Community and Family Policy) (DASD (MCFP)), 2018). Lim and Schulker (2010) compared military wives to demographically similar civilian wives, finding that military wives were more likely to be out of the labor force, involuntarily working part-time, or earning less than their civilian peers. The barriers and military-related challenges facing employed active duty spouses are well-documented (Harrell, Lim, Casteneda, & Golinelli, 2004; Hosek, Asch, Fair, Martin, & Mattock, 2002; Lim, Golinelli, & Cho, 2007; Lim & Schulker, 2010), but much less is known about the employment-related outcomes of Guard and Reserve spouses. Annual demographic reports just started reporting the employment status of Guard and Reserve spouses in 2017. Spouses of Guard and Reserve members participate in the labor force at higher numbers than spouses of active-duty members; 71% are employed in the civilian labor force, 23% are not in the labor force, and 6% are currently seeking work (DASD (MCFP), 2018). The current study focused on Guard and Reserve spouses' employment and their labor force participation rates suggest they may be more invested in their careers than their more geographically mobile active-duty counterparts.

Understanding the distinctions between Guard and Reserve military members and their active-component counterparts was important for framing the hypotheses in the current study. Guard and Reserve component members serve on a part-time basis. This usually includes a weekend of training a month and two continuous weeks of training a year. More so than in past

engagements, the U.S. military relied heavily on Guard and Reserve forces during the conflicts in Iraq and Afghanistan (Vogt, Samper, King, King, & Martin, 2008). During these deployments, Guard and Reserve members transition to active, full-time duty for the duration of the deployment, which range from 6-months to more than a year. Although Guard and Reserve spouses may experience less geographic mobility and daily strains of military life, deployment represents an experience central to both groups. This study aimed to better understand the work-family interface for partners of GMs experiencing deployment.

The current study sought to answer several research questions examining a proposed process through which family-related strengths and challenges generate both positive and negative spillover from family to work, ultimately influencing spouses' depressive symptoms and job engagement. The research questions were as follows and tested utilizing two waves of data from employed partners of Army National GMs:

RQ1. How do family-related strengths and challenges relate to military partners' experiences of family-to-work spillover?

RQ2. How does family-to-work spillover relate to partners' depressive symptoms and job engagement?

RQ3. Do positive and negative family-to-work spillover mediate the relationships between family related strengths/challenges and depressive symptoms and job engagement?

RQ4. Are these relationships different for partners of GMs experiencing deployment and a non-deploying comparison group?

Evaluating the preceding research questions in the current study helped to further understanding of both strengths and vulnerabilities in the work-family interface for partners of deployed service members. More specifically, this research explored how family strengths and challenges during deployment impacted partners' job engagement and depressive symptoms through family-to-work spillover processes.

The current study contributed to current literature in three meaningful ways. First, deployment represents a challenging time of increased household demands and, for some, increased risk of mental health concerns (Donoho et al., 2018; Mansfield et al., 2010). The ways in which work and family interact has important implications for both individuals' health and well-being (Allen, Herst, Bruck, & Sutton, 2000; Moen et al., 2016) and deserved attention as an

area of interest for partners of deployed service members. By exploring possible work-family processes associated with depressive symptoms, the current study added to current literature about contributing factors to partners' mental health during deployment. Second, a non-deploying comparison group allowed us to better understand the implications of deployment for Guard and Reserve partners' work-family interface. Finally, the family-to-work model addressed two understudied aspects of the work-family interface. By attending to the family-to-work direction as well as the positive effects of family on work, the current study contributed to a field that has largely focused on conflict between work and family (Greenhaus & Powell, 2006; Stoiko, Strough, & Turiano, 2017) as well as the work-to-family direction of effects (Bianchi & Milkie, 2010; Stevens, Minnotte, Mannon & Kiger, 2007).

## THEORETICAL PERSPECTIVE

The current study drew largely from research and theory grounding the work-family field. Studying the relationships between family-related strengths and challenges during deployment and family-to-work spillover, as well as the ultimate outcomes of depressive symptoms and job engagement, required careful attention to the theories that have meaningfully connected the work and family domains in civilian research. In the following section, I will summarize the tenets of role theory, work-family conflict, work-family facilitation, and spillover in order to provide background and empirical evidence for the relationships I hypothesized in Figures 1 and 2.

In the following sections, several theories of how work and family interact are presented. These theories can be organized by the following two factors: their breadth or specificity, as well as their categorization as stemming from either the ancestral role strain or expansionist approach (See Figure 3). Goode (1960) developed a theory of role strain, which proposes that individuals experience struggles in their attempts to meet the demands of multiple roles. Marks (1977) noted the limitations of the scarcity approach and offered the expansionist approach as an alternative that builds upon the notion that human beings both produce and consume energy as well as empirical literature documenting groups of people who do not experience role strain. Work-family conflict, negative spillover from work to family, and negative spillover from family to work are descending in specificity and all stem from a role strain or scarcity hypothesis. Work-family enrichment, positive spillover from work to family, and positive spillover from family to work are also descending in specificity and stem from a role enhancement or expansionist perspective. Researchers have studied these constructs and found them to be unique and separate (e.g., different antecedents and associated outcomes), but also related to one another (Frone, Russel, & Cooper, 1992; Greenhaus & Powell, 2006; Mesmer-Magnus & Viswesvaran, 2005).

### Role Theory

The historic theory of structural functionalism proposed that individuals and families function optimally when members are responsible for specialized roles. Role norms and expectations are maintained by society and involve set expectations for behavior, namely, men

working outside the home for paid work and women working in the home caring for children and the household. Structural functionalism viewed roles as “the fundamental building blocks of social systems (p. 496)” and although researchers have noted limitations of this perspective (Barnett & Hyde, 2001; MacDermid, Roy, & Zvonkovic, 2005), it continued to inform the majority of work-family research into the 21<sup>st</sup> century with much of the research during the 1990’s focusing on multiple roles, maternal employment, and work stress (Perry-Jenkins, Repetti, & Crouter, 2000; MacDermid et al., 2005).

Evidence of sex role specialization in the labor force is limited in the present day, where both men and women participate in the labor force at similar rates. In 2016, for people of working age, the labor force is almost evenly split between men (53%) and women (47%; Bureau of Labor Statistics, 2018). The gap widens for mothers, especially mothers of young children who have a labor force participation rate of 62% compared to married fathers of young children at 94% (Bureau of Labor Statistics, 2018). However, dual-earning households in which both members of a couple are employed are more prevalent than arrangements in which only one partner provides family income. In 2017, among all married and single-parent headed families, 6 out of 10 households with children were households in which all parents were working, signifying an increase in both dual-earner households and single working parents (Bureau of Labor Statistics, 2018).

### **Role strain**

With the emergence of dual-earner households, managing multiple roles has become a focus of theory and research. Goode proposed that the demands of one role would drain individuals’ resources (e.g. time, physical and mental energy) resulting in inadequate resources to complete activities in other roles. Role strain may be defined simply as difficulty meeting role demands, which are, generally, over demanding (Goode, 1960). Marks (1977) proposed the ‘scarcity hypothesis’ in which individuals have a finite amount of resources and individuals experience distress and conflict occurs when both work and family roles tap into the same resources (Marks, 1977).

According to the theory of role strain and the scarcity hypothesis, during deployment partners may experience distress in either domain as the household role becomes more demanding and may detract from the resources needed to complete the labor role’s expectations.

Some partners of deployed GMs must adapt to meeting multiple new roles that the GM previously held (Chandra et al., 2011). The division of household and market labor varies family to family, but in many cases the at-home partner will be meeting new demands once fulfilled by the GM. When employed partners of deployed GMs take on increased challenges and roles at home, they may be at risk of experiencing role strain as they try to maintain their usual roles in paid employment alongside increasing responsibilities at home.

### ***Work-Family Conflict***

Work-family conflict occurs when the demands associated with one role interfere with one's ability to meet the demands of a different role, and that conflict may come from the work or family roles (Greenhaus & Beutell, 1985). Greenhaus and Buetell (1985) described three types of work-family conflict including time-based, strain-based, and behavior-based conflict. Time-based conflict occurs when time is the source of strain (e.g. lack of schedule flexibility or role demands). Strain-based conflict happens when characteristics of either the work or family domain create strain for the individual (e.g., tension, fatigue, or irritability). Behavioral-based conflict has been studied less, but asserts that attributes required by one role (e.g. aggressiveness or objectivity at work) are incompatible with expectations of the other role (e.g. warmth and vulnerability at home; Greenhaus & Beutell, 1985). Work-family conflict may be decomposed into the following two separate constructs: family-to-work (FTW) conflict and work-to-family (WTF) conflict (Frone, Yardley, & Markel, 1997). Although correlated, these two forms of conflict have been largely demonstrated to be separate and distinct constructs that predict different personal and occupational outcomes (Frone et al., 1992; Mesmer-Magnus & Viswesvaran, 2005).

Research has demonstrated that work-family conflict can be problematic for both occupational and family outcomes, as well as individual well-being (Amstad, Meier, Fasel, Elfering, & Semmer, 2011), especially in the context of chronic job stressors and feelings of overload (Perry-Jenkins et al., 2000). Work family conflict demonstrates a strong link with psychological strain (O'Driscoll et al., 2003). Parents' with high levels of work-family conflict also tend to report lower quality parenting and couple relationships (Cooklin et al., 2014; Cooklin et al., 2016). Jang, Zippay, and Park (2012) reported that single parents and women with high family workload experienced more affective stress and work-family conflict than their

peers, especially under jobs conditions with low flexibility. In the current study, the sample of primarily female spouses of GMs, some of whom have shifted into a pseudo single-parent role, may be at risk for work-family conflict as they strive to meet increased household demands during deployment without consequences at work.

Although the majority of women participate in the labor force (Bureau of Labor Statistics, 2018), most workplace environments tend to favor “ideal workers” willing to work long hours, which can disadvantage women, especially mothers, who still bear more responsibility for housework and childcare (Bianchi, 2000; Bianchi, Milkie, Sayer, & Robinson, 2000; Williams, 2000; Yavorsky, Kamp Dush, & Schoppe-Sullivan, 2015). In dual-earner couples, women are more likely than men to make systematic changes to their employment to meet the demands of family alongside work, including scaling back their employment (Becker & Moen, 1999). Women, who bear more responsibility for caregiving, may experience changes in their labor force participation (e.g. status, hours, and earning changes) in response to caregiving transitions that threaten their occupational attainment and earnings (Carnevale, Smith, Gulish, & 2018; Wakabayashi & Donato, 2005). Men’s overwork can also have a detrimental impact on their spouse’s employment. For example, Cha (2010) found in a longitudinal study of dual-earner couples that men’s overwork resulted in their wives being substantially more likely to quit their jobs. Deployment could be considered an extreme form of long hours or overwork and may provide a context for women to experience challenges enacting their household and work roles.

The models hypothesized (See Figures 1 and 2) in the current study utilized a cross-domain approach in which demands in one domain produce strain and poor outcomes in another (Ford, Heinen, & Langkamer, 2007). Past research has identified associations with WTF and FTW conflict from a cross-domain perspective. Frone et al. (1992) suggested a cross-domain relationship where work interfering with family would have more detrimental effects on family role performance and family interfering with work would result in strain in the work role. Amstad et al. (2011) explained the cross-domain hypothesis saying, “The rationale behind this assumption is that the conflict, although originating in one domain, is causing problems in the other domain (p. 152).” Frone et al. (1997) studied antecedents and outcomes associated with WTF and FTW conflict in a sample of employed adults with family responsibilities. They found work-overload, work distress, and work-time commitment to be positively related to WTF conflict, while FTW conflict was positively associated with family overload and family distress,

and family time commitments. Other researchers have also found empirical support for the cross-domain perspective (Ford et al, 2007; Michel, Mitchelson, Kotrba, LeBreton, & Baltes, 2009). Results from the current study shed further light on the processes through which family affects work in the contextually unique time of deployment.

In addition to the cross-domain approach, the current study explored the processes of family affecting work, referred to as the “neglected side of the work-family interface” (Crouter, 1984; Stevens et al., 2007). The effects of work on family, mainly focusing on conflict, have been studied more thoroughly than how family impacts work (Colichi, Bocchi, Lima, & Popim, 2016; Williams, Berdahl, & Vandello, 2016). FTW conflict has important implications for employees including links to stress and absenteeism (Anderson, Coffey, & Byerly 2002).

The current study added to the literature by studying both the positive and negative spillover from family to work. By studying partners of deployed service members and comparing them to partners of non-deployed service members, we were able to study how changes and challenges within the household role during deployment were associated with processes of family-to-work spillover and the implications for individual well-being and engagement at work. Partners of deployed service members have reported increased challenges at home such as difficulties with child behavior, increased parenting demands, and perceived role overload (Chandra et al., 2011). Studying the impact of family on work in an deploying and non-deploying comparison group was appropriate in the current study, allowing for a greater understanding of how increased household demands during deployment (Chandra et al., 2011) may affect the work lives of spouses of deployed service members.

Although there are struggles associated with work-family conflict, some of which can be quite serious, many families have managed to effectively balance work and family, especially when dual-earner couples utilize egalitarian methods for dividing household labor (Barnett & Rivers, 1996; Bartley, Blanton, & Gillard, 2005; Meier, McNaughton-Cassill, & Lynch, 2006; Zimmerman, 2003). Couples cite striving for partnership in child rearing, decision making, and household tasks as an important strategy for maintaining work and family balance (Haddock, Zimmerman, Current, & Harvey, 2003). An egalitarian attitude can also affect behavior. For example, European mothers with partners who have more egalitarian attitudes have reported taking shorter parental leaves and reducing their work hours less after the birth of a child (Stertz, Grether, & Wiese, 2017). This partnership may be threatened when one partner is deployed, thus

increasing the potential for work-family conflict. Work-family conflict may increase when one partner must suddenly take on additional roles and responsibilities while their partner is away for a year on military deployment. For National Guard families, members must reorganize from a civilian lifestyle to a “suddenly military” lifestyle (Operation Military Kids, 2012). A two-parent household will reorganize in response to changes in one or both partner’s civilian job status as well as moving from a household with two parents physically present to just one. In this case, the demands in the household increase and meeting work demands could become more difficult. In addition, the absence of one partner arguably lessens the chances of egalitarian division of labor, a known resource in the presence of work-family conflict. Partners of deployed service members may experience increasing conflicts between work and family roles.

### **Role enhancement**

Multiple researchers have described a process in which experiences in one domain (work or family) enhance one’s experiences in the other domain, including role expansion (Barnett & Hyde, 2001), work-family facilitation (Grzywacz & Butler, 2005), work-family enrichment (Greenhaus & Powell, 2006), and positive spillover (Edwards & Rothbard, 2000). Many of these works built upon Marks’ (1977) role expansion hypothesis, arguing that human beings generate energy in addition to consuming energy. Further, participation in multiple roles may expand one’s energies as opposed to the more frequently understood strain in which one role drains energy and resources from the other. Despite the potential negative consequences of work-family conflict, evidence also suggests that people benefit from combining work and family roles (Grzywacz & Marks, 2000). However, these enhancement perspectives remain scarce in the literature (Bianchi & Milkie, 2010).

Rosalind Barnett pioneered the idea of role enhancement and the advantages of maintaining multiple roles in her extensive study of dual-earner couples (Barnett & Hyde, 2001; Barnett & Rivers, 1996). Barnett and Hyde (2001) introduced the concept of role expansion while simultaneously arguing the obsolete nature of functionalist theories. Role expansion or role enhancement perspectives describe advantages of maintaining multiple roles for dual-earner couples (Barnett & Hyde, 2001; Barnett & Rivers, 1996).

### *Work-family enrichment*

Greenhaus and Powell (2006) described the construct of work-family enrichment, in which resources accumulated in one domain result in improved quality of life in the other domain. The current study explored both positive and negative pathways by which family and household impact work with implications for job engagement and depressive symptoms. For employed partners, their work life may enhance individual well-being through a process of work-family enrichment. Mothers' and fathers' experiences of work-family enrichment also have a positive effect on parenting (e.g. more warmth and consistency; Cooklin et al., 2014; Cooklin et al., 2016). Research with working mothers has demonstrated a role enhancement phenomenon in which quality experiences in multiple roles resulted in increased life satisfaction (Baruch & Barnett, 1986; Reid & Hardy, 1999). Mothers with higher education, extroversion, more income and social support tend to experience more work-family enrichment. More job rewards, and work commitment are also associated with more work-family enrichment (Zhou & Buehler, 2016). Participating in the labor force and quality family experiences may provide opportunities for enjoyment, growth, and self-satisfaction. The current study assessed whether quality family experiences and military spouse role satisfaction spillover in a positive way to employees' work-lives resulting in engagement at work.

Recent research has made considerable progress understanding work-family enrichment and its antecedents and consequences. A meta-analysis found that work-to-family enrichment and family-to-work enrichment were positively associated with both physical and psychological well-being (McNall, Nicklin, & Masuda, 2010). Additionally, both directions of work-family enrichment were associated with job satisfaction, family satisfaction, and commitment at work (McNall et al., 2010). Family support and supervisor support were associated with work-to-family enrichment and work-to-family enrichment, respectively (Nicklin & McNall, 2013). Further exploration of work-family enrichment was able to delineate certain aspects of work-family enrichment that mediate the relationships between work and family. Moods originating from the family environment and impacting work partially mediated the relationship between family support and family satisfaction. The following two types of work-to-family enrichment partially mediated the relationship between supervisor support and job satisfaction: mood originating in the work environment impacting family as well as psychological resources originating from work and impacting family (Nicklin & McNall, 2013).

## Spillover

Work-family spillover is a specific form of work-family conflict or enrichment that refers to “the consequences of intersecting work and family experiences (p. 47; Sweet, 2014).” However, spillover, unlike work-family conflict and work-family enrichment, may have either positive or negative consequences of one domain spilling over to the other. In the case of negative spillover, based in work-family conflict, researchers “assume that each person has a fixed amount of time and energy to spend on each role such that one role may deplete resources available for other roles” (Chen, Powell, & Greenhaus, 2009, p. 83). According to Dilworth (2004), spillover occurs when “transmission takes place within the individual who has been either positively or negatively affected by events in the source environment which then spill over into the next environment (p. 243).” Scholars have described spillover as a process in which work and family influence one another such that experiences in one domain produce similarity of experience in the other domain (Edwards & Rothbard, 2000). Both positive and negative spillover have implications for employees’ well-being years in the future (Cho & Tay, 2016). Edwards and Rothbard (2000) identified the following four types of spillover: mood, values, behavior, and skills. They proposed that these mechanisms transfer bi-directionally between work and family. Work-family spillover may be divided into four constructs according to the outcome (positive or negative) and the direction (family-to-work or work-to-family; Sweet, 2014).

Researchers have established positive spillover from work to family, negative spillover from work to family, positive spillover from family to work, and negative spillover from family to work as separate, but related constructs (Grzywacz & Marks, 2000). For example, positive spillover and negative spillover are not different ends on the spectrum of a single construct, but separate constructs that are related to one another. Factor analyses exploring positive and negative spillover in both directions (i.e. work-to-family and family-to-work) have found a four-factor model to be superior to other factor structures (Kinneunen, Feldt, Geurts, & Puulkkinen, 2006). Research with the four different types of spillover has documented different relationships between each construct and separate outcomes. For example, negative WTF spillover was more tightly linked to job exhaustion and negative FTW spillover was most strongly associated with marital dissatisfaction (Kinneunen et al., 2006). A meta-analysis found job-related factors (e.g. job involvement and job stress) were predictive of work interfering with family with implications

for family satisfaction; family-related factors (e.g., family conflict and stress) were predictive of family interfering with work with implications for job satisfaction (Ford et al., 2007).

Researchers focused on FTW spillover have found different antecedents of positive and negative spillover and variation between mothers and fathers (Dilworth, 2004; Stevens et al., 2007).

Together, previous work suggests positive WTF spillover, negative WTF spillover, positive FTW spillover, and negative FTW spillover to be related, but separate constructs with different antecedents and associated outcomes.

A discussion of the conceptual distinction between spillover and work-family conflict/enrichment is warranted as it pertains to the current study (See Figure 3). Spillover represents one of the mechanisms that connect work and family. Spillover is based on a similarity hypothesis, or positive associations between what happens at work and home and involves the transfer of mood, values, behavior, and skills (Edwards & Rothbard, 2000). In the current study, spillover measured the transfer of mood, shifts in focus, and drain or accumulation of energy from family to work. Work-family conflict, however, refers to “a form of interrole conflict where the role pressures from the work and family domains are mutually incompatible in some respect” (Carlson & Frone, 2003, p. 517). Unlike spillover, work-family conflict is a conflict centered construct, which does not consider the possibilities for work-family enrichment and facilitation, although it does occur bi-directionally between work and family (e.g. work interfering with family and family interfering with work; Carlson & Frone, 2003) whereas spillover could be positive or negative in nature.

Spillover is an intra-individual occurrence that spans more than one domain. Research consistently supports a spillover effect of work-related stressors to mood at home (Lavee & Ben-Ari, 2007; Song, Foo, & Uy, 2008) as well as mood spillover from home to work (Dilworth, 2004; Williams & Alliger, 1994). Spillover can be viewed as the opposite of segmentation. Segmentation refers to the degree to which work and family are demarcated by a clear boundary. Individuals have varying preferences in terms of the integration or segmentation of their work-family roles influenced by work-environment, culture, and individual difference (Chen et al., 2009; Sweet, 2014). In the following sections, the concepts of negative and positive spillover are introduced as well as their anticipated relationships with the antecedents and outcomes proposed in Figures 1 and 2.

## Negative spillover

Negative spillover is a specific form of work-family conflict when one's performance of one role spills over to the detriment of the other role. Negative spillover from family demands to occupational performance seems to be a gendered relationship that affects women more than men and women's higher workload in the home when compared to men likely contributes to this relationship (Dilworth, 2004; Keene & Reynolds, 2005; Mennino, Rubin, & Brayfield, 2005). Negative FTW spillover has been found to be greater for single mothers than single fathers, married fathers, and married mothers (Nomaguchi, 2012). Further, for married dual-earner couples, the extent to which couples share household responsibilities is more predictive of wives' FTW spillover than other groups (Nomaguchi, 2012). National Guard and Reserve spouses are primarily women (87%; DASD (MCFP), 2018), as is the sample for this study, and negative spillover from family to work may be especially salient during deployment, when home responsibilities are increased and many spouses report role overload and high amounts of burden (Caska & Renshaw, 2011).

In the current study, I hypothesized that effective family functioning would be negatively related to negative FTW spillover (See Figure 2, Path H). Although Stevens et al. (2007) did not find a relationship between family satisfaction and cohesion with negative FTW spillover, several other researchers have documented similar significant relationships. For example, Dilworth (2004) studied employed parents and reported family satisfaction, but not marital satisfaction, to be one of the strongest predictors of negative FTW spillover for both mothers and fathers. In addition, Bryon (2005) found family stress to be positively related to family interfering with work. Grzywacz and Marks (2000) found spouse disagreement and family criticism/burden to be positively related to negative FTW spillover and Frone et al. (1997) also found a positive relationship between family dissatisfaction and negative FTW conflict. More recently, researchers found a daily impact of family hassles on later job resources and afternoon work performance. They found family hassles, similar to ineffective family functioning, to impair employee performance the next day (Du, Derks, & Baker, 2018). Together, these findings are suggestive of a negative relationship between effective family functioning and negative FTW spillover (Path H).

## Positive spillover

Although early literature focused on individuals' limited time and available resources to fulfill multiple roles, often resulting in conflict, more recent literature has highlighted the positive interdependencies of the work and family roles where one role may benefit the other through a transfer of positive experiences (Chen et al., 2009; Greenhaus & Powell, 2006; McNall et al., 2010). Work-family enrichment (Greenhaus & Powell, 2006) and work-family facilitation (Wayne, Grzywacz, Carlson, & Kacmar, 2007) theories provide the theoretical basis for positive spillover as a construct. Advances have been made in measuring and identifying facets of positive spillover. Hanson, Hammer, and Colton (2006) identified the following three types of positive work-family spillover: affective, behaviorally-based instrumental, and values-based instrumental. Hanson et al. (2006) described affective positive spillover saying, "Positive affect experienced in one role (the originating role) may increase self-efficacy, motivation, and positive interpersonal interactions in another role, resulting in better performance in the other role (the receiving role" (p. 250). Improved role performance may continue into elevated mood through recognition of role performance by family or coworkers. Values based spillover includes processes in which work socialization or family culture influences the other domain through a transfer of values such as work ethic, autonomy, or curiosity. Behavioral based spillover may include the transfer of skills or knowledge, such as interpersonal communication or multitasking, making one more effective in one role due to skills and knowledge gained in the other (Edwards & Rothbard, 2000; Hanson et al., 2006). Cho and Tay (2016) found positive FTW spillover to be an important predictor of employee's future well-being.

The current study evaluated a process of positive spillover from family functioning and role satisfaction to positive FTW spillover, which was hypothesized to be associated with less depressive symptoms. Assessing these relationships offered beneficial knowledge in a population that is reportedly at risk for depression (Mansfield et al., 2010). For partners of deployed military members the work-family interface could be a source of further burden or risk to mental health, or an outlet with opportunities for enrichment serving to buffer individual well-being from the demands and burden of deployment. Positive spillover between work and family is related to benefits for the individual and family in a process described as work-family enrichment (Greenhaus & Powell, 2006). Hammer, Cullen, Neal, Sinclair, and Shafiro (2005) found positive spillover to be more predictive of individuals' depressive symptoms than work-

family conflict, such that the negative relationship between positive spillover and depressive symptoms was stronger than the positive relationship with work-family conflict. The current study contributed to current literature by assessing positive spillover in a field that has largely emphasized work-family conflict (Greenhaus & Powell, 2006).

Drawing from civilian literature, I hypothesized a positive relationship between effective family functioning and positive FTW spillover (Figure 2, Path G). Grzywacz and Marks (2000) found positive relationships between family factors, such as spouse and family affectual support, and positive spillover. They documented negative relationships between spouse disagreement and family criticism/burden with positive spillover. A meta-analysis of work-family enrichment found FTW enrichment to be positive associated with family satisfaction (McNall et al., 2010). Research has examined the work-family lives of dual-earner couples and revealed a positive association between family role quality and positive FTW spillover (Pedersen, Minnotte, Kiger, & Mannon, 2009). Stevens et al. (2007) studied FTW spillover and found relationship satisfaction and family cohesion to be positively related to positive spillover. Together these findings suggest a positive relationship between effective family functioning and positive FTW spillover (Path G).

### **Deployment Challenges**

In the current study, the increasing challenges and responsibilities for at-home partners during deployment were evaluated for their potential to create FTW spillover. For comparison group partners not experiencing deployment, these challenges just referred to recent household challenges. FTW spillover has been a well-established phenomenon, although less studied than WTF spillover (Crouter, 1984; Dilworth, 2004; Stevens et al., 2007). Women tend to experience more FTW spillover, but life stage and work environment also moderate this relationship such that flexible work environments buffer women's risk of negative spillover and young children enhance this risk (Keene & Reynolds, 2005; Martinengo, Jacob, & Hill, 2010). I hypothesized that larger amounts of household-related challenges (e.g. household challenges and children's behavioral concerns) would be related to less positive WTF spillover and more negative WTF spillover (Figure 2, Paths I and J).

## Role Satisfaction

The current study evaluated whether participants' role satisfaction as a military spouse was related to their experiences of FTW spillover. Work-family research has incorporated values-based spillover into multidimensional scales of work-family positive spillover. Hanson and colleagues (2006) provided an example of values-based spillover saying, "Values learned in one role, for example, may have a socializing influence on one's general life values and thus vicariously affect what is valued in other roles" (p. 250). Role performance may be improved due to transfers of values through positive spillover. Role satisfaction through positive spillover has also been associated with better mental health (Hanson et al., 2006). In the current study, I utilized an independent variable, military spouse role satisfaction, that characterized values based spillover by evaluating military spouses' commitment to their partner's career, pride in their role of military spouse, and their personal satisfaction with their role (Department of Defense, 2008). Based on growing work documenting the benefits of values-based positive spillover, I hypothesized a positive relationship between military spouse role satisfaction and positive FTW spillover (Figure 2, Path K) and a negative relationship with negative FTW spillover (Figure 2, Path L). In addition, evidence would suggest a negative relationship between military spouse role satisfaction and depressive symptoms (Figure 1, Path E) and a positive relationship with job engagement (Figure 1, Path F).

Partners of deployed service members perceive positive outcomes of deployment such as financial gain, a sense of pride and patriotism, personal growth and, a sense of confidence and independence (Castaneda et al., 2008; Newby et al., 2005). The positive experiences families report during deployment may result in positive FTW spillover and increased job engagement. Work-family gains or, positive spillover, are also predictive of work commitment (Mulvaney, McNall, & Morrissey, 2011), which could be important when some research indicates deployment threatens partners' labor force participation (Steelfisher et al., 2008). Some military members and their partners quit their jobs or move residence in response to deployment (Harrell et al., 2004). A work-family facilitation (Wayne et al., 2007) perspective may argue that, for partners facing increased household responsibilities and emotional hardship, positive family experiences may be associated with enhanced individual well-being (Figure 1, Path A) and job engagement (Figure 1, Path B; Mulvaney et al., 2011).

### **Depressive Symptoms**

Grzywacz (2000) reported an association between positive FTW spillover and mental health, such that more positive spillover was related to better reported mental health. A study of female employees found that more positive WTF spillover was associated with less depressive symptoms (Franche et al., 2006). Research with WTF positive spillover has also documented linkages between more positive spillover and psychological health and depressive symptoms (Hammer et al., 2005; Stephens, Franks, & Atienza, 1997). In a study of employed mid-life adults, Grzywacz (2000) described a relationship between positive FTW spillover and well-being such that more spillover was related to less negative well-being, better mental health, and more positive well-being. The workplace may be a source of positive emotions, which have been shown to be important in reducing depressive symptoms for Army spouses through coping and resilience (Dolphin, Steinhardt, & Cance, 2015). In the current study, I hypothesized a negative relationship between positive FTW spillover and depressive symptoms (Figure 2, Path M).

Negative spillover has demonstrated the opposite relationship with mental health, such that more work-family conflict and negative spillover tends to be associated with poorer mental health (Goodman & Crouter, 2009; O'Driscoll et al., 2003). Goodman and Crouter (2009) found an association between negative WTF spillover and more depressive symptoms in a longitudinal study of employed mothers. Franche et al. (2006) found negative WTF spillover to be related to more depressive symptoms, but not negative FTW spillover in their study of female health-care workers. Grzywacz (2000) demonstrated that adult employees experiencing more negative FTW spillover were less likely to report good mental health and positive well-being. A study of military members and their spouses found work-family conflict to be directly related to the employee's psychological distress as well as their partners (Huffman et al., 2017). The current study offered further understanding of how negative FTW spillover relates to depressive symptoms in light of past mixed findings. I hypothesized that negative spillover would be related to more depressive symptoms (Figure 2, Path O).

### **Job Engagement**

In addition to mental health, spillover from family to work can impact employees' experiences at work, especially for women (Keene & Reynolds, 2005). Others have

demonstrated positive relationships between positive spillover and job engagement (Culbertson, Mills, & Fullagar, 2012; Mostert & Pienaar, 2006; Siu et al., 2010). Culbertson et al. (2012) utilized an experience sampling approach to document a positive relationship between affective positive spillover at home and job engagement. Siu et al. (2010) found a strong link between work-family enrichment and work engagement. In a sample of police officers, Mostert and Pienaar (2006) found a positive relationship between positive work-home interaction and work engagement. In the current study, Edwards and Rothbard's (2000) theoretical process of spillover and current work supported the hypothesis that positive FTW spillover would be positively associated with job engagement (Figure 2, Path N).

Edwards and Rothbard's (2000) work with spillover provided similar rationale for a hypothesized negative relationship between negative FTW spillover and job engagement (Figure 2, Path P). Kossek and Ozeki (1998) reviewed existing literature on the link between work-family conflict and job satisfaction and found a consistent negative relationship between conflict and job and life satisfaction, providing evidence for a similar relationship between negative FTW spillover and job engagement. Others have studied mood spillover between work and home and found a negative relationship between negative home-to-work spillover and employee's job satisfaction (Lourel, Ford, Gamassou, Gueguen, & Hartmann, 2009). A negative mood transfer from family to work should impact job engagement in a deleterious fashion. Overall, theories of spillover and current literature provided context for making the hypotheses in Figures 1 and 2, which depict predicted associations between positive and negative FTW spillover with their antecedents (i.e. family functioning, deployment challenges, and military spouse role satisfaction) and outcomes (i.e. depressive symptoms and job engagement).

## **LITERATURE REVIEW**

The foundational work-family theories discussed above explain the larger context of the current study. Other important literature areas also formed the context for the current study, such as military spouse employment, deployment's implications for individuals and families, and the role of deployment household challenges. In addition, literature on family functioning and role satisfaction was utilized to describe the role of effective family functioning and military spouse role satisfaction as antecedents of positive FTW spillover. Additional relevant literature was used to inform the hypothesized relationships between FTW spillover and depressive symptoms and job engagement.

### **Military Spouse Employment**

Segal (1986) described the military and the family as 'greedy institutions' and noted that military families live at "the intersection of two societal institutions, both of which make great demands on individuals in terms of commitment, loyalty, time, and energy" (p. 9). The constraints on employment active duty military spouses experience are well documented. Considerable research has found that spouses' employment appears to be vulnerable to demands of military service. Research has consistently demonstrated that spouses are more likely to be out of the labor force, unemployed, underemployed, and earning less than demographically comparable civilians (Harrell et al., 2004; Hosek et al., 2002; Lim et al., 2007; Lim & Schulker, 2010). Importantly, research on military spouse employment has focused on active duty component spouses, but their findings help provide insight into how active-duty deployments may impact the occupational lives of Guard and Reserve spouses.

### **Active Duty Spouses' Employment**

Research using data from previous decades has documented the employment challenges experienced by military spouses. Harrell et al. (2004) found, in a 1990 census-based sample of both military and civilian spouses, that military spouses were less likely to be employed and earn less when they are employed than their demographically similar civilian peers. Using data from the 2000 census, Lim et al. (2007) reported that military spouses were still more likely to be out

of the labor force and earning less when employed than a civilian comparison. Lim et al. also found that military spouses were more likely to be unemployed and seeking work when compared to their civilian counterparts. Another analysis using the 2010 American Community Survey, military spouses were less likely to participate in the labor force and more likely to be unemployed compared to demographically similar people married to a civilian (Heaton & Krull, 2012). An in-depth analysis of the American Community Survey from 2005-2011 revealed further details regarding the employment outlook for active-duty military spouses (Hosek & MacDermid Wadsworth, 2013). Hosek and MacDermid Wadsworth (2013) found female military spouses to be 9% less likely than their civilian counterparts to participate in the labor force and those that were employed made 14% less salary than their comparable civilian counterparts. They also found the military spouses were less likely to work full-time and worked an average of 6.4 fewer weeks per year than comparable civilians.

Lim and Schulker (2010) provided an important contribution to the literature on military spouses by offering a more in-depth analysis of military spouse employment when they studied the prevalence of military spouse *underemployment*. Using data from the 2006 Survey of active duty Spouses, Lim and Schulker (2010) reported that 43% of active duty military wives were not in the labor force (not looking for work), 11% were voluntarily working part-time, and 11% were considered adequate full-time employees. The remaining military wives (55%) were considered underemployed using the following distinctions ordered from most to least prevalent: underemployed by educational mismatch, unemployed (looking for work), involuntarily employed part-time, and underemployed by low income. Consistent with past findings, Lim and Schulker (2010) found that, relative to demographically similar civilian wives, military wives were more likely to be: out of the labor force, involuntarily working part-time, underemployed, and earning less than their civilian peers (Lim & Schulker, 2010).

Researchers have tried to better understand the specific aspects of military life that may predict their employment status or tendency to be underemployed. Lim and Schulker's (2010) analyses revealed that a deployment or relocation in the past year was seemingly unrelated to spouse employment. However, others found that the tendency for military spouses to be out of the labor force or working less hours per week was linked with relocation itself (Cooke & Speirs, 2005). Harrell and colleagues interviewed over 1,000 active duty military spouses to better understand spouses' perceived effects of military life on their occupational lives. The majority of

military spouses acknowledged a negative impact of military service on their employment and education opportunities citing things such as frequent and disruptive moves, service member absence, parenting demands and childcare concerns, inflexible and unpredictable schedules, and negative stigma toward military spouses in the workplace as barriers to consistent employment (Harrell et al., 2004).

Interviews gathered by Harrell et al. (2004) offered insights into spouses' perceived barriers to employment as well as motivations to work. The majority of spouses out of the labor force discussed parenting responsibilities as their primary reason for not working. Those who experienced financial difficulty and/or mid-grade enlisted families more often cited child care concerns as a primary motive for not working. About one-third of spouses indicated that the military had impacted their work opportunities negatively due to frequent relocation and transition barriers and a quarter of spouses attributed service member absence (training, deployment, temporary duty, etc.) as the source of the negative impact. Smaller groups of spouses explained their lack of employment as related to education and volunteer responsibilities (Harrell et al., 2004). More recent analyses indicated that deployment also affected military spouse employment. Hosek and MacDermid Wadsworth (2013) found military spouses were less likely to participate in the labor force if their service member had been deployed in the past year, especially when young children were present in the home. Spouses labor force participation fell in the months leading up to deployment and started to rise again months after deployment (Hosek & MacDermid Wadsworth, 2013). Together, these findings suggest deployment may be a challenging time for spouses maintaining paid employment and additional responsibilities at home during the service member's absence.

Harrell et al. (2004) discovered that military spouses chose to work for diverse reasons including to pay bills and basic expenses, personal fulfillment and independence, to keep skills current, and to utilize their education; however, the reasons varied by pay grade of their spouse, financial condition, and occupation. Those with higher income/pay grade with more education tended to cite personal fulfillment, skills or education based reasons for employment whereas those with lower income/pay grade and financial difficulties worked to supply vital family income (Harrell et al., 2004). Although military life presents challenges for spouses' employment opportunities, a small portion of spouses reported positive effects of the military on their employment citing things such as diversity of experience from different positions or

preference for hiring military spouses on post or base (Harrell et al., 2004). Lim and Schulker (2010) found that despite their employment challenges, military spouses' labor force opportunities were largely unrelated to their self-reported satisfaction with their lives as a military spouse.

The majority of research cited above either excludes male spouses of military members or are unable to conduct direct comparisons due to the smaller number of male spouses. Little and Hisnanick (2007) did compare military husbands and wives, finding that military husbands earned 70% of their civilian counterparts' wages, whereas military wives earned 50% less, suggesting women may experience more detriment to their earnings associated with following their spouse's military career. Cooke and Speirs (2005) studied both female and male civilian spouses of military members from the 1990 U.S. Census. They found that, irrespective of gender, moving was linked to declines in spouses' economic status. More specifically, moving was associated with an increased risk of unemployment, a decrease in employment status, and decreased hours worked. These findings suggest that tied-migration as a military spouse is associated with similar employment constraints for both men and women, but more research with larger samples of civilian husbands is needed.

### **Guard and Reserve Spouses' Employment**

The research presented thus far was conducted with large, representative samples consisting of active duty populations, but very little is known about the occupational lives of partners of Guard and Reserve military members. This section will compare how the specific context associated with Guard and Reserve service may impact spouses' work-life interface differently than what research has shown with active-component spouses. In addition, I describe how findings from active duty populations helped to inform hypothesized relationships in the current study within the context of employed Guard spouses.

The research conducted with active duty military spouses informs my study of Army National Guard spouses, but there are key contextual differences between the military lives of Guard and Reserve families and active duty families that could change the expectations of how military life affects the work-life interface of civilian partners. Guard and Reserve component service members live in civilian communities and serve on a part-time basis. This usually includes a weekend of training a month and two continuous weeks of training a year. Arguably,

Guard and Reserve families are less geographically mobile and partners may be able to invest in their own careers alongside their part-time military member more so than in active component families and their employment status differences would support that hypothesis. For example, 47% of active-duty civilian spouses are employed in the labor force, 14% are seeking work, and 39% are not participating in the labor force. Comparatively, 71% of Guard and Reserve civilian spouses are employed in the labor force, 6% are seeking work, and 23% are not participating in the labor force (DASD (MCFP), 2018).

Active-duty military spouses report that relocation and service member absence negatively impacts their careers (Harrell et al., 2004). Relocation is more prevalent in active duty families, but deployment is an experience central to both active and Guard populations. More so than in past engagements, the U.S. military relied heavily on Guard and Reserve forces during the conflicts in Iraq and Afghanistan (Vogt et al., 2008). During these deployments, Guard and Reserve members transition to active duty, full-time duty for the duration of the deployment, which range from 6-months to more than a year.

The current study focused on occupational outcomes associated with deployment, an experience shared by both active and Reserve families. The impact of separation has been found to be one of the most influential factors when predicting military spouse psychological and physical well-being, satisfaction with military life, and marital satisfaction (Burrell, Adams, Durand, & Castro, 2006). MacDermid and Southwell (2011) noted that wartime deployment is accompanied by “unique work-family challenges for military families” (p. 166). The families of National Guard and Reserve military members often report feeling, “suddenly military,” as their member moves to a full-time status for deployment (Operation Military Kids, 2012).

Guard and Reserve partners who likely experience less geographic mobility may have more well-established, longstanding careers. Their occupational investment may be greater than active duty counterparts; thus the effects of military life and deployment specifically, on their work life may be more impactful than in active duty populations. For example, increased household demands and emotional challenges accompanying deployment may result in difficulties enacting both work and family roles. That assertion reflects a work-family conflict centric perspective. However, their occupational life may also contain more well-established networks of support and offer a positive outlet for a Guard partner struggling with hassles of military life or deployment, supportive of work-family enrichment perspectives. Although there

remains a gap in understanding when studying the effects of deployment specifically on the occupational lives of civilian spouses of Guard and Reserve members, substantial research with active duty populations does offer valuable insights when forming hypotheses for the current study.

## **Deployment**

Much of the research focusing on the deployment of military members to Iraq and Afghanistan and their families has been problem-focused (MacDermid Wadsworth, 2010). This study considers ways in which family life can positively (e.g., effective family functioning and military spouse role satisfaction) and negatively (e.g., deployment challenges) impact work and depressive symptoms in the context of deployment. In the following section, I review literature that documents individual and family challenges associated with deployment. Specifically, I review research in the areas of partners' mental health, couple relationships, and household challenges.

### **Deployment Implications: Mental health**

Deployment can be seen as a stressful experience, with implications for partners' mental health. Mansfield et al. (2010) conducted an epidemiological study of medical records of outpatient Army wives and found a relationship between deployment and length of deployment with wives' mental health diagnoses. Deployment was associated with increased risk of depressive disorders, sleep disorders, anxiety, acute stress reactions, and adjustment disorders (Mansfield et al., 2010). Further research helped identify which spouses were more at-risk for depressive symptoms and risk factors included the following: being married to an enlisted service member, having PTSD, unemployment, four or more children, and previously serving in the military (Donoho et al., 2018). A study of psychiatric distress in spouses and cohabitating partners of National Guard soldiers found evidence of mental health difficulties *prior* to deployment. In a study of National Guard spouses *following* deployment, researchers documented heightened levels of depression -- double that of a normed community sample (Renshaw, Rodrigues, & Jones, 2008). Lester et al. (2010) compared the depression and anxiety levels of partners of currently deployed and recently returned service members and found increased symptoms for partners of currently deployed members. A review of related research

from 14 studies conducted from 2005-2010 demonstrated a consistent link between deployment and at-home partner mental health concerns (De Burgh, White, Fear, Iversen, 2011). Importantly, although the prevalence of clinically significant depressive symptoms among partners of deployed members is higher than non-deployed samples as well as community samples, the majority of partners do not experience considerable depressive symptoms. Due to a documented increased risk for depression among partners of deployed service members, depressive symptoms are included as an outcome in the current study. Exploring possible work-family processes associated with depressive symptoms could help to elucidate one of the contributing factors to partners' mental health during deployment.

Depressive symptoms as an outcome deserve attention as evidenced by literature demonstrating a link between experienced deployment and at-home partners' depressive symptoms (Mansfield et al., 2010). Reserve component partners also reported worse emotional well-being than active duty populations experiencing deployment (Chandra et al., 2011). Partners report deployment-related hassles (caring for children instrumentally and emotionally, managing household responsibilities, etc.) as challenging (Chandra et al., 2011). A study of parental deployment found that deployment exposure was associated with less effective family functioning and increased marital instability as well as socio-emotional concerns in children (Lester et al., 2016). Current literature informed a hypothesized direct and positive association between deployment challenges and depressive symptoms (Figure 1, Path C). A role strain perspective was utilized to predict that increasing challenges at home would be associated with less job engagement (Figure 1, Path D).

### **Deployment Implications: Couple Relationships**

The relationship between military service and service members' marital patterns represents a considerable segment of research with military families both historically (Laufer, & Gallops, 1985; Pavalko & Elder, 1990) and in its current state (Karney & Crown, 2007; Negrusa, Negrusa, & Hosek, 2014). The findings regarding the relationship between deployment and marital outcomes (e.g., divorce risk) remains mixed. Schumm, Bell, and Gade (2000) studied the effects of a peacekeeping deployment over time on the marital relationship of Army soldiers. They found a decline in marital satisfaction over the transition to deployment as well as an exacerbation of marital instability for those reporting concerns before deployment. For those that

remained married through deployment, however, marital quality remained stable (Schumm et al., 2000).

A comprehensive look at marital dissolution in response to deployment by Karney and Crown (2007) found that deployment had a buffering effect on marital stability. For all branches of the military, the risk of marital dissolution increased with the number of days spent deployed. Further analyses comparing male active duty service members to a matched civilian comparison demonstrated that military populations were no more likely to divorce than their civilian counterparts and that comparison holds through the conflicts in Iraq and Afghanistan (Karney, Loughran, & Pollard, 2012).

Other researchers have come to different conclusions regarding the impact of deployment on divorce risk. In a population based study, Negrusa et al. (2014) found that every month spent on deployment increased a couple's risk of divorce. This relationship was stronger for couples that married before the attacks of 9/11. Karney and Crown's (2007) work utilized a sample that entered the military between 2002 and 2005 and subsequently married and deployed. Negrusa et al. (2014) offered that the window of time utilized by Karney and Crown (2007) may have been too limited to allow testing the effect of deployment on divorce as an explanation for their discrepant findings. Negrusa et al. also noted that their sample included members who entered the military before 9/11 and, theoretically, this population did not expect deployment and the unanticipated shock of deployment would be more detrimental to marriages; ultimately, this notion was supported by their data. Military marriages that predated historical events of 9/11 and endured deployment were more vulnerable to divorce, possibly due to the un-expected experience of deployment, whereas for those who married after 9/11, deployment was an expected or normative experience.

Combat trauma and subsequent symptoms of post-traumatic stress disorder (PTSD) may play a more impactful role in changing the nature of couple relationships than deployment alone (Allen, Rhoades, Stanley, & Markman, 2010). Rates of PTSD for returning veterans from Iraq and Afghanistan are estimated to be between 12 and 20% for active duty service members (Hoge et al., 2004). Other research that compared Active component and National Guard Army soldiers found that National GMs experienced more mental health concerns (i.e. PTSD and depression) at both 3 and 12 months after deployment (Thomas et al., 2010). For example, at 12-months post-deployment, active members experienced a 12 to 29% prevalence of depression or

PTSD, depending on the level of impairment, whereas NG members reported a 14 to 33% prevalence. The difference was more drastic when considering PTSD alone. At the lowest level of screening, where members would be considered for PTSD diagnosis was 24% for active members and 31% for NG members (Thomas et al., 2010).

Goff, Crow, Reisbig, and Hamilton (2007) studied the relationship between post-traumatic stress symptoms and relationship satisfaction of both Army combat veterans and their spouses. They found more trauma symptoms, especially sleep problems, dissociation, and sexual problems, to be predictive of lower relationship satisfaction for both soldiers and their partners. A study of National Guard soldiers over time found that PTSD symptoms predicted poorer couple adjustment and more parenting challenges (Gewirtz, Polusny, DeGarmo, Khaylis, & Erbes, 2010). Others, also studying National Guard soldiers, found a significant relationship between PTSD and poorer relationship adjustment on multiple measures (Erbes, Meis, Polusny, & Compton, 2011). In addition, analyses of specific factors associated with PTSD, they found dysphoria (emotional numbing and arousal) to be most strongly linked to relationship adjustment. Caska and Renshaw (2011) also found that partner perception of withdrawal and numbing were associated with more psychological distress in a sample of veterans of Iraq and Afghanistan as well as a Vietnam veteran sample. Allen et al. (2010) linked more PTSD symptoms with less relationship confidence, positive bonding, commitment, and more negative communication in their sample of active duty Army soldiers and their wives. In a test of a military family stress model, parents' PTSD was more related to child adjustment and parenting practices than the number of and length of deployments experienced in families (Gewirtz, DeGarmo, & Zamir, 2017).

Although PTSD can seriously impair relationship functioning, researchers have reported that for GMs facing PTSD symptoms, a supportive and well-adjusted couple relationship can facilitate mental health treatment utilization (Meis, Barry, Kehle, Erbes, & Polusny, 2010). Although evidence remains mixed on whether deployment alone negatively impacts couple relationships, other outcomes related to deployment, such as PTSD symptoms indirectly impair couple functioning. The current study focused on family-related variables as predictors of FTW spillover, but couple level interactions helped to inform predictions of how family functioning may be at play during deployment.

## **Deployment Implications: At-home Family Challenges**

At-home parents report numerous challenges associated with deployment including poor emotional well-being, changing roles in their marriage, problems growing apart from their partners, child behavioral challenges at school and home, not having time to do things for themselves, having too many responsibilities at home, and a lack of community support (Chandra et al., 2011). When asked for their perceptions, spouses of deployed service members report feelings of loneliness (78%), anxiety (52%), and depression (43%) in addition to difficulties managing the household (29%; Steelfisher et al., 2008). National Guard and Reserve families also appear to be more at-risk for these challenges than active duty families (Chandra et al., 2011). Research also points to deployment as a time of increased risk of emotional and behavioral disturbances for children (Huebner, Mancini, Wilcox, Grass, & Grass, 2007; Lester et al., 2016). Challenges such as these (e.g. child behavior problems and household challenges) were measured as deployment (or recent) challenges in the current study and tested for their association with FTW spillover.

Although deployment related research tends to be problem-focused, military members and their partners do report positive outcomes as well including financial gain, a sense of pride and patriotism, personal growth and, for family members, a sense of confidence and independence (Castaneda et al., 2008; Newby et al., 2005). The positive experiences families report during deployment may result in positive family-to-work spillover (Figure 2, Path I). In addition, a work-family facilitation (Wayne et al., 2007) perspective may argue that, for partners facing increased household responsibilities and emotional hardship, an occupational outlet may become increasingly important and result in enhanced individual well-being and higher commitment to work (Mulvaney et al., 2011). Some research has found work-family facilitation to be more predictive of job and family satisfaction than work-family conflict (Boyar & Mosley, 2007).

The current study utilized a measure of deployment challenges, including things like having difficulty getting jobs done at home, keeping busy and doing things one enjoys, and offering support and encouragement to children. Research on how families experience deployment has demonstrated that at-home partners experience increased parenting demands as well as role shifts and perceived role overload during deployment. Partners of deployed service members also report difficulties maintaining communication and intimacy with their partner,

loneliness and sadness, and fear for their partner's safety (Chandra et al., 2011). The logistical and emotional challenges at-home partners experience may result in increases in work-family conflict in the form of negative FTW spillover (Figure 2, Path J).

### **Family Functioning**

Considerable research has highlighted the importance of family-related concerns for military members and their partners during deployment. McCreary, Thompson, and Pasto (2003) found that concerns about family was the strongest predictor of Canadian service members' depression levels before their deployment. In a study of a peacekeeping deployment, concerns about how the deployment would affect their family interfered with service members' duty performance during deployment (Schumm et al., 2000). Vogt et al. (2011) highlighted the importance of family concerns when studying outcomes following deployment. In their study of both active duty and Reserve OEF/OIF veterans, Vogt et al. found an indirect relationship between service members' reported relationship concerns and their post-traumatic stress symptomology through the mechanism of service members' perceived threat during deployment. Others found that increases in Guard and Reserve soldiers' PTSD symptoms from pre-to post-deployment were associated with poor couple adjustment and greater parenting challenges following deployment (Gewirtz et al., 2010). Deployment exposure has also been linked to decreased family functioning in military families with children (Lester et al., 2016).

Family process models provide useful information to better understand individual mental health (Cummings, Keller, & Davies, 2005; Huffman et al., 2017). Family functioning is an important correlate of depressive symptoms for adults such that more effective and emotionally close family functioning is directly associated with less depressive symptoms (Franks, Campbell, & Shields, 1992). A study of military members and their spouses found family cohesion to be related to their partner's psychological distress, beyond the effect of work-family conflict alone (Huffman et al., 2017). Although deployment may play a stabilizing role in marriage, combat exposure during deployment can have a deleterious effect on family relationship functioning (Cozza et al., 2010; Erbes et al., 2011; Gewirtz et al., 2010) and can involve increasing problematic behavior in children and youth (Flake, Davis, Johnson, & Middleton, 2009; Lester et al., 2010). I hypothesized that effective family functioning would be directly and negatively related to depressive symptoms (Figure 1, Path A).

Building upon the importance of family concerns during deployment, the current study utilized effective family functioning as a predictor of FTW spillover. Family functioning may be a resource (e.g., effective family functioning) allowing for more opportunities for positive FTW spillover (Figure 2, Path G) or a demand (e.g. ineffective family functioning) increasing risk of negative FTW spillover (Figure 2, Path H). Partners and military members have reported positive outcomes during deployment such as financial gain, a sense of pride and patriotism, personal growth and, for family members, a sense of confidence and independence (Castaneda et al., 2008; Newby et al., 2005). These positive experiences of deployment and effective family functioning may result in a process of positive FTW spillover for partners. Alternatively, the challenges and demands of deployment combined with ineffective family functioning may result in a process of negative FTW spillover.

Family functioning as utilized in this study referred to a construct growing out of a systems approach to family therapy (Epstein, Bishop, & Levin, 1978) and broadly refers to “the ability of the family to work together as a unit to satisfy the basic needs of its members” (Staccini, Tomba, Grandi, & Keitner, 2014, p. 2). The McMaster Model of Family Functioning (MMFF) builds on five fundamental systems theory principles. First, members of the family are interconnected and related. Second, an individual must be viewed as an individual within a broader system rather than in isolation. Third, holism suggests a family is more than just the sum of its parts. Fourth, the ways in which a family is structured and organized are influential when predicting family members’ behavior. Finally, transactional patterns enacted in the family system are also important influences on family members’ behavior (Epstein et al., 1978).

Family functioning as a construct can be defined as a description of “structural and organizational properties of the family group and the patterns of transactions among family members that have been found to distinguish between healthy and unhealthy families” (Epstein et al., 1983, p. 172). Epstein, Baldwin, and Bishop (1983) designed a measure of family functioning from their MMFF that serves as a screening tool for family therapists to identify possible problems. The advantages of assessing family functioning include a description of the entire family’s functioning as opposed to individuals’ or different dyads’ and the often-varied perspectives of multiple family members (Epstein et al., 1983). However, the current study utilized a single perception from the civilian, at-home partners of the Guard family. The MMFF consists of six components of family functioning: problem solving, communication, roles,

affective responsiveness, affective involvement, and behavior control. These six components comprise the subscales of the assessment device in addition to a seventh general functioning subscale, which was utilized in the current study. When used with a non-clinical, community sample, researchers have found that 17% of families score in an unhealthy or dysfunctional range on four or more subscales and mothers tend to be more dissatisfied than fathers with family functioning (Akister & Stevenson-Hinde, 1991).

Family functioning has been found to be an important predictor of children's symptoms and behavior as early as infancy (McHale & Rasmussen, 1998). Family processes such as hostility, competitiveness and low family harmony at infancy have been linked to preschoolers' later anxiety and behavioral concerns (McHale & Rasmussen, 1998). Family functioning has found to be important when differentiating families in which a child is experiencing chronic pain-related disability from healthy comparisons. Families in which a child has chronic pain or a pain-related disability more often report poor family functioning compared to healthy comparisons (Lewandowski, Palermo, Stinson, Handley & Chambers, 2010). Family factors such as family functioning have been identified as an area of risk (in the case of ineffective family functioning) or strength (in the case of effective family functioning) for children and adolescents facing disability and illness (Palermo & Chambers, 2005) as well as adults (Staccini et al., 2014). Family functioning has distinguished successfully between clinical populations and community controls in many settings and groups of patients experiencing physical and mental illnesses; in addition, clinical intervention has been shown to improve family functioning (Staccini et al., 2014). In the current study, general family functioning was a valuable tool for measuring how effectively families of partners in this study were functioning in the face of deployment.

### **Job Engagement**

Kahn (1990) laid the theoretical groundwork for the construct of job engagement. Kahn argued that individuals bring dimensions of themselves into their role performance at work when appropriate conditions, such as a meaningful outlet, safety, and availability, are present. Job engagement as a construct emerged more recently than other more well-known work concepts such as job satisfaction and was conceptualized as, "a positive work-related state of fulfillment that is characterized by vigor, dedication, and absorption" (Schaufeli, Bakker, & Salanova, 2006,

p. 701). Scholars have theorized engagement to be a composite factor of intellectual, social, and affective components (Soane et al., 2012) not to be confused with workaholism (Schaufeli, Taris, & Van Rhenen, 2008) or job satisfaction (Bakker, 2011). Job engagement is a robust factor with meaningful antecedents and associated outcomes (Bakker, 2011).

As theorized by Kahn (1990), appropriate conditions must be present for employees to engage themselves fully into their role performance at work. Scholars have made important contributions identifying consistent predictors of work engagement. Job resources, including social support, autonomy, learning opportunities, and performance feedback were predictive of work engagement in Schaufeli, Bakker, and Van Rhenen's (2009) study of Dutch managers. Across four samples of employees from diverse companies, Schaufeli and Bakker (2004) found similar results. A latent variable, job resources, composed of performance feedback, social support from coworkers, and supervisor coaching, was positively related to work engagement. In addition to organizational support, Rich, Lepine, and Crawford (2010) identified value congruence and core self-evaluations as important antecedents of work engagement. Value congruence referred to employees' perceived alignment of their own values with their organization. Core self-evaluations were measured using Judge, Erez, Bono, and Thoresen's (2003) four-factor model of self-esteem, self-efficacy, neuroticism, and locus of control. Work engagement has been thought to be the opposite of burnout (Maslach & Leiter, 1997), and research has supported this notion demonstrating a negative relationship between burnout and engagement (Schaufeli et al., 2006).

Under employment conditions characterized by high job demands, job resources (job variability, creative opportunities, peer and supervisor support, innovativeness, innovativeness) become particularly important when predicting work engagement (Bakker, Hakanen, Demerouti, & Zanthopoulou, 2007; Hakanen, Bakker, & Demerouti, 2005). For working parents specifically, a flexible work environment and colleagues and supervisors' positive attitudes toward parents' needs were related to more work engagement in a cross-sectional study of parents of young children. Factors outside the immediate work environment also affect employees' work engagement. For example, Fiksenbaum (2014) found work-family conflict to be negatively related to work engagement. Work engagement has been shown to vary on a daily basis using experience sampling and be highly susceptible to positive and negative affect (Bledow, Schmitt, Frese, & Kuhnel, 2011). Further, job engagement has been found to be an important mediator

between the above mentioned predictors and important job-related and personal well-being outcomes (Rich et al., 2010; Schaufeli & Bakker, 2004).

Job engagement offers considerable evidence as an important predictor of work performance using multiple indices (Bakker, 2011). In a review of the work engagement literature, Bakker argues that engaged workers perform better in their work roles for the following four reasons: experiencing more positive emotions (gratitude, joy, and enthusiasm), better overall health, self-creation of both job and personal resources, and a transfer of work engagement from themselves to coworkers. These factors also contribute to overall better team functioning in organizations. Rich et al. (2010) found work engagement to be related to both organizational citizenship behavior and task performance above and beyond intrinsic motivation, job involvement, and job satisfaction. A lack of job engagement has been related to more turnover intentions, but not health problems, in four samples of employees (Schaufeli & Bakker, 2004). Similarly, Soane et al. (2012) found work engagement to be related to task performance, organizational citizenship behavior, and turnover intentions in the expected directions.

Researchers have also linked work engagement to other outcomes outside the work context, such as depressive symptoms and life satisfaction. In a prospective seven-year analysis, more work engagement was predictive of less depressive symptoms over time and more life satisfaction in a professional sample (Hakanen & Schaufeli, 2012). Using a more diverse sample and a longitudinal design, others have demonstrated a causal relationship between work engagement and later symptoms of both anxiety and depression (Innstrand, Langballe, & Falkum, 2011). Job engagement has been utilized as a construct predictive of business outcomes, individual well-being, intentions to quit, and burnout (Hakanen & Schaufeli, 2012; Harter, Schmidt, & Hayes, 2002; Schaufeli & Bakker, 2004). Further, work engagement is thought to be the positive antithesis of burnout (Hakanen & Schaufeli, 2012). Schaufeli et al. (2008) found job engagement to be a factor of employee well-being distinct from others such as workaholism and burnout. The current study aimed to increase understanding of the influence of family related demands and resources on participants' experiences of FTW spillover and job engagement.

## Linking Processes

### Indirect Effects

Edwards and Rothbard (2000) set out to construct operational mechanisms of how work and family interact including processes of spillover, compensation, segmentation, and resource drain. The current study utilized positive spillover as a mechanism by which effective family functioning and military spouse role satisfaction leads to less depressive symptoms and more job engagement, through positive spillover (H1 and H2). In addition, I hypothesized that recent family challenges would be associated with more depressive symptoms and less job engagement, through negative spillover (H3).

More research demonstrated the importance of spillover as a mechanism by which work affects family (Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005; Goodman & Crouter, 2009). Goodman and Crouter (2009) called attention to the abundant research documenting the impact of work on family and family on work, but a lack of understanding regarding the mechanisms involved in these relationships. A large psychology review of work-family research in the areas of industrial and organizational behavior also called for more research regarding the mechanisms by which work affects family and vice versa (Eby et al., 2005). Goodman and Crouter (2009) studied negative spillover as possible mediator in their longitudinal study of employed mothers. They found that negative work-family spillover mediated the relationship between work stress and depressive symptoms. The current study extends the findings of Goodman and Crouter (2009) by exploring indirect effects between family strengths/challenges and both depressive symptoms and job engagement through positive and negative spillover. The following hypotheses were tested in the current study:

Hypothesis 1a: There will be a significant indirect effect from effective family functioning to depressive symptoms, through positive spillover.

Hypothesis 1b: There will be a significant indirect effect from effective family functioning to job engagement, through positive FTW spillover.

Hypothesis 2a: There will be a significant indirect effect from military spouse role satisfaction to depressive symptoms, through positive FTW spillover.

Hypothesis 2b: There will be a significant indirect effect from military spouse role satisfaction to job engagement, through positive FTW spillover.

Hypothesis 3a: There will be a significant indirect effect from deployment challenges to depressive symptoms, through negative FTW spillover.

Hypothesis 3b: There will be a significant indirect effect from deployment challenges to job engagement, through negative FTW spillover.

The current study offered further understanding regarding spillover, both positive and negative, as a mechanism linking family to work.

### **Moderation**

Research has revealed that managing military life and a career proves problematic for partners of military members in terms of unemployment, underemployment, earnings, and career changes (Harrell et al., 2004; Lim et al., 2007; Lim & Schulker, 2010). Separation and deployment specifically, represent one of the most difficult challenges to partners' careers and many report making a "professional sacrifice, such as reducing hours at work and negotiating work schedules with employers" (Chandra et al., 2011, p. 47). Although I hypothesized that the pathways and linking processes in Figures 1 and 2 to be present in both deploying and non-deploying groups, I also hypothesized that some paths would be stronger in the deploying group compared to the non-deploying group. Acknowledging the increased family, household, and emotional demands faced by partners during deployment, I hypothesized that partners experiencing deployment may display different relationships among family and work. Specifically, I explored whether each path in the model differed between deploying and non-deploying groups.

For National Guard families, deployment comes as a shift from a mostly civilian family to a "suddenly military" family (Operation Military Kids, 2012). In my sample of National Guard families, I expected the direct pathways from military spouse role satisfaction to depressive symptoms (Path E) and job engagement (Path F) to be stronger in the deploying group. The role of military spouse may feel more salient on a daily basis to partners of deployed members who may worry for their family member's safety and experience the physical absence of the member due to the military as part of daily life. In the current study, I expected military spouse role satisfaction to be more influential, or more tightly linked to positive FTW spillover (Path K) for deployed families feeling satisfied in their role and more tightly linked to negative FTW spillover (Path L) if their role as a military spouse is characterized by strain rather than satisfaction.

## METHODS

Data for this study came from the Family Journeys project, a larger longitudinal study of National Guardsmen (GMs) and their families' experiences throughout a deployment cycle. Eligible families included an Indiana Army National Guard (NG) facing an upcoming deployment who was married to or currently living with an intimate partner. Recruitment began by seeking permission of military leaders and unit commanders to invite deploying families to participate. Upon approval, letters were sent to the GM's household describing the project and outlining eligibility criteria. Interested individuals could return a response card to enroll in the study. Additionally, participants were recruited in person during predeployment briefings that occurred two to six months before the GM's scheduled deployment. Rolling data collection was utilized, allowing for sampling from multiple National Guard units from various military occupations. The larger study captured six-waves of data across a period of two years. One wave occurred before the GM deployed, two waves of data were gathered during deployment, and three waves of data were gathered during the year of reintegration following the GM's return. Participants completed in-person interviews in their own home or a convenient public place. GM's and their partners were invited to participate in an interview as well as children nine years of age or older. Interview questions gathered details regarding individual, couple, and family well-being as well as work and family relationships, service utilization, and parent-child relationships. Observational data regarding family interaction with any family members over the age of three and living with the GM were also gathered. The Family Journeys project utilized a non-deploying comparison group that consisted of a group of GMs and their families who prepared for a deployment that was abruptly cancelled.

### Participants

The sample for this study included employed spouses and cohabiting intimate partners of an Army National Guard (NG) ( $N = 216$ ). Most participants were female (89.5%) and White (91.7%), with an average age of 30.4 ( $SD = 7.8$ ) years. The majority of participants were married and in their first marriage (64.1%); others were in their second marriage (19.9%), never married (10.5%), or divorced (4.4%). They had been in their relationships for an average of 7.39 years

( $SD = 5.91$ ) with an average of 1.33 ( $SD = 1.21$ ) children living at home and 1.83 ( $SD = 1.5$ ) children overall. More than half of the sample was employed full-time (66.3%); the remainder was employed part-time (33.7%) at private companies (62.4%) or in government (19.9%), self-employed (7.2%), or students (3.9%). The sample varied by educational level; 12.2% were high school graduates, 7.2% had a technical certificate, 28.2% completed some college, 16.0% finished an Associate's degree, 26.0% a Bachelor's degree and 9.9% finished a graduate degree. Their median household income was \$46,000-\$59,999. Participants were partners of GMs who had been in service an average of 9.02 years ( $SD = 6.39$ ) and were expecting or starting their 1<sup>st</sup> (38.7%), 2<sup>nd</sup> (16.0%), or 3<sup>rd</sup> (13.3%) deployment. A smaller percentage had already experienced 3 or more deployments (11.7%). The GMs were concentrated at the enlisted ranks of paygrade E4 to E6 (52.5%), E1-E3 (11.6%), and E7-E9 (8.3%); the remaining were officers (10.5% O1-O3 and 2.8% O4-O5) and warrant officers (1.7%).

The sample was composed of two groups: a deploying group ( $n = 136$ ) that experienced a deployment outside the continental U.S. during their time in the study and a non-deploying comparison group ( $n = 80$ ) that prepared for a deployment that was ultimately cancelled (See Table 1 for group differences). The partners in the comparison group were older and, as would be expected, reported relationships of longer duration and that their service members were in the military longer with higher paygrades. Comparison group partners reported a higher gross combined income, but did not differ in their employment status, education level, type of employment, gender, race, number of children, or the GM's number of deployments.

### **Procedures**

Drawn from the larger project, the current study focused on two waves of data collection from employed partners. For the deploying group, the first wave of data collection (T1) occurred on average three months after the GM deployed and the second wave (T2) occurred nine months after the GM deployed and six months after T1. In the comparison group, T1 occurred approximately three months after a planned deployment and T2 was collected six months later. For the deploying group, the two time points coincide with deployment and for the comparison group, the time points follow families who prepared for a deployment and later adjusted to the GM remaining home.

Data were collected during in-person structured interviews conducted in participants' homes or a convenient public place. Interviews consisted of both quantitative items and brief open-ended, qualitative items. Trained interviewers read questionnaires aloud and recorded participant responses. In addition, a brief survey was sent a few days in advance as a way of reducing participant burden during the in-person interview. Fidelity of data was ensured through several processes including extensive interviewer training for interview implementation, monthly individual and group supervision of field interviewers, audio recording of interviews, and evaluation of each individual interview for data fidelity. Participants were given monetary compensation for their time completing the interview. Retention efforts for this longitudinal study included monthly postcards, interview follow-up calls, and regular family feedback on the interview process.

## **Measures**

### **Effective Family Functioning**

Family functioning was measured using 12 items from the general functioning subscale of the McMaster Family Assessment Device (FAD; Epstein et al., 1983). This scale measured the overall health and functioning of the family, including the ability to be supportive, communicate effectively, and solve problems (Epstein et al., 1983). Participants rated each item on a 5-point Likert-type scale, which ranged from 1 (strongly disagree) to 5 (strongly agree). Example items include, "In times of crisis, family members can turn to each other for support," and "Your family is able to make decisions about how to solve problems." Scale scores were created by averaging items after appropriate reverse coding was completed. Higher scores indicated more effective family functioning. Cronbach's alpha value for this scale was  $\alpha = .81$ .

### **Deployment (Recent) Challenges**

A set of items (9 for the deploying group/8 for the non-deploying group) gathered information about how the family was coping with deployment or recent life in general. The same set of items was administered to both the deploying and non-deploying groups, but with a different question stem. For the deploying group, the set of items was introduced by saying, "Since the GM deployed, how easy or difficult is it for you to...?" focusing the participant's

attention on deployment-related challenges. For the non-deploying group, the items were introduced by saying, “Since the last time we talked, how easy or difficult is it for you to...?” Sample items included the following: “handle/discipline the children,” “get jobs done at home (cook meals, do laundry, do maintenance work, etc.),” “keep busy and do things you value and are interested in,” “make decisions for the family,” and “handle emergencies (medical, major breakdown in household equipment, theft, etc.).” The following single item was asked only of the deploying group: “maintain a ‘positive attitude’ toward your spouse being away.” Participants responded using a Likert scale of 1 (very easy) to 5 (very difficult). A scale score was computed by using a mean of item responses and higher scores reflected more experienced challenges with deployment or recent life in general. Cronbach’s alpha value for this scale was  $\alpha = .80$ .

### **Military Spouse Role Satisfaction**

Military spouse role satisfaction was evaluated using 12 items that assessed participants’ commitment to their partner’s military career, perceived pride in their role, as well as their satisfaction with being a military spouse (Department of Defense, 2008). Example items included the following: “Being a military spouse is consistent with your personal goals,” “you feel a strong obligation to support the GM’s commitment to a military career,” and “you are proud to tell other that you are married to a service member.” Respondents answered on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). A scale score was computed by using a mean of item responses and higher scores were indicative of more role satisfaction. Cronbach’s alpha value for this scale was  $\alpha = .79$ .

### **Positive Family-To-Work Spillover**

Positive FTW spillover was assessed using two items from the National Study of the Changing Workforce (Families and Work Institute, 2008). Items included: “How often have you been in a BETTER mood at work because of your personal or family life?” and “How often have you had MORE energy to do your job because of your family or personal life?” Participants responded using a 5-point scale from 1 (never) to 5 (very often) and a scale score was created using the mean of both items. Higher scores on this scale indicated more perceived positive FTW spillover. Cronbach’s alpha for positive FTW spillover was  $\alpha = .81$ .

### **Negative Family-To-Work Spillover**

Negative FTW spillover was assessed using four items from the National Study of the Changing Workforce (Families and Work Institute, 2008). Example items included the following: “How often has your family or personal life kept you from doing as good a job at work as you could?” and “How often have you not had enough time for your job because of your family or personal life?” Participants responded using a 5-point scale from 1 (never) to 5 (very often) and a scale score was created using the mean across items. Higher scores on this scale indicated more perceived positive FTW spillover. Cronbach alpha for this scale was  $\alpha = .84$ .

### **Depressive Symptoms**

Depressive symptoms were measured using the CES-D (Radloff, 1977). Participants responded to 20 items asking how often they had felt a particular way during the previous week (1= rarely or none of the time, 4=most or all of the time). Items from the scale include “I felt depressed,” “I felt lonely,” and “My sleep was restless.” Scale scores were created by averaging the items, with higher scores reflecting more depressive symptoms. Cronbach’s alpha value for this scale was  $\alpha = .79$  for partners.

### **Job Engagement**

Participants’ job engagement was collected using one item (Families and Work Institute, 2008) that asks, “How often do you think about good things related to your job when you’re busy doing something else?” and participants responded on a 4-point Likert scale from 1 (never) to 5 (very often). Higher scores on this item are reflective of higher levels of job engagement.

### **Deployment Status**

Participants reported whether they were currently experiencing a deployment (0 = not deploying, 1 = deploying).

### **Control Variables**

Age, gender, income, marital status, number of children in the home, GM pay grade, full or part-time job status, and years in employment status were all collected using single self-report

items. These variables were evaluated for potential inclusion in the path analyses as demographic control variables in the final models.

### **Data Analysis**

The current study utilized path analysis to test the role of positive and negative FTW spillover in mediating relationships between family experiences and individual outcomes. Antecedents of FTW spillover included effective family functioning, deployment challenges (recent challenges for the non-deployed comparison group), and military spouse role satisfaction (See Figure 1). Outcomes associated with FTW spillover included depressive symptoms and job engagement. Both direct and indirect paths were tested. Finally, I evaluated whether the models and individual paths varied for participants who prepared for and actually experienced a deployment and those who prepared for a deployment that was ultimately cancelled. In summary, I aimed to examine the paths between family strengths and challenges to individual depressive symptoms and job engagement through both positive and negative FTW spillover in a deploying and non-deploying group. Preliminary analyses included testing for mean differences of each variable between the two groups as well as bivariate correlations among model variables.

### **Sampling Decisions**

I chose to retain from the larger longitudinal study all employed partners who participated at time one data collection. There were 216 employed partners at the T1 interview who were included in the analyses. Since some of those partners were unmarried ( $n = 32$ ) and male ( $n = 20$ ), I conducted the analyses with and without these small groups. Results were consistent in terms of direction of relationships and standardized path coefficients. I chose to retain this part of the sample to preserve statistical power, honor their participation and experiences, and provide a broader population for potential generalizability. In addition I evaluated whether gender and marital status accounted for significant variance in the outcome variables.

### **Model Specification**

In order to examine the antecedents and outcomes associated with FTW spillover, I tested the models presented in Figure 1 and Figure 2 using path analyses and Full Maximum

Likelihood Estimation. Path analyses allowed me to evaluate the fit of data to my hypothesized relationships among observed variables. The models were estimated in STATA data analysis and statistical software version 13. The recursive path model contained three observed, exogenous variables: effective family functioning, deployment challenges (or recent challenges for the non-deploying group), and military spouse role satisfaction. The model also contained two observed endogenous outcomes: depressive symptoms and job engagement. Finally positive FTW spillover and negative FTW spillover were endogenous mediating variables. The hypothesized model consisted of seven total observed variables with both direct and indirect effects.

The path models presented in Figures 1 and 2 were estimated with the appropriate errors.  $\epsilon_1$  to  $\epsilon_4$  were associated with the four endogenous, observed variables of positive FTW spillover, negative FTW spillover, job engagement, and depressive symptoms. All exogenous variables were allowed to co-vary with all other exogenous variables. All error terms associated with endogenous variables were allowed to co-vary with all others. Kline (2011) specified that the model must have parameters that less than or equal to the number of observations. The number of observations is equal to  $[k(k+1)] / 2$ , where  $k$  is the number of variables in the model. For my model the number of observations were  $28 = (7(7+1) / 2)$ . The number of parameters in my model ( $N = 26$ ) included the following: number of paths ( $n = 16$ ), number of variances of exogenous variables ( $n = 3$ ), number of covariances ( $n = 3$ ), and the number of disturbance terms ( $n = 4$ ). The number of parameters in my model was less than the number of observations. In the final Models C and D, the following control variables were evaluated to identify if they were significantly related to depressive symptoms or job engagement: age, gender, marital status, number of children in the home, income, pay grade, full vs. part-time work, and the number of years in the employment status. Those that were significantly associated were regressed onto outcome variables to partial out variance accounted for by demographic characteristics and employment characteristics. The inclusion of control variables varied as well as the number paths after inspection of the correlation matrix and removal of unrelated constructs, but I continued to ensure model identification by managing the model in a way that maintains the number of parameters as less than the number of observations. In the final Model D, baseline levels of T2 outcome variables (i.e. depressive symptoms and job engagement) were controlled for by regressing pre-deployment measurement of those variables onto the T2 observation in the model.

## **Sample Size and Power**

In order to detect relationships, adequate statistical power was required. Path analysis requires a sample size of 100 or greater and a common guide for structural equation analyses requires 10 observations for each estimated parameter to be adequately powered (Kline, 2011). The sample size in the current study consisted of 216 employed partners of GMs. In the models reported in results, there was a range of 8-12 parameters estimated per model, which would require up to 120 participants to be adequately powered, well under the current study's sample size of 216. For a multiple group analysis some scholars recommend 200 participants per group (Kenny, 2011), while others provide for multi-group analyses with less than 100 in each group (Acock, 2013). There were 136 participants in the deploying group and 80 participants in the non-deploying group, which was nearing acceptable standards for multi-group analyses in path analysis and structural equation modeling. My ability to find moderate to large path differences between the groups was likely adequate.

## **Missing Data**

Addressing missing data was an important step in the current study. Missing data in the current study was likely not missing completely at random, but rather missing not at random (West, Aiken, Wu, & Taylor, 2007). I utilized use full-information maximum likelihood (FIML), which uses patterns of missing data to estimate means, variances, and correlations for each pattern. FIML was a better choice than other more limiting methods such as mean imputation or listwise deletion. Stata 13 software allowed for integrated use of FIML as an option using the method (mlmv) command; the models estimated were produced simultaneously with the missing data calculations.

## **Model Fit**

I assessed global model fit to understand whether the data fit the hypothesized relationships well. I evaluated the goodness-of-fit chi square as one index of whether my model fit the data well. If the goodness-of-fit chi-square was large and significant, it signified that the model did not represent the data well. Conversely, if the chi-square was small and not statistically significant, that was evidence that my model fit the data well. In addition, I evaluated

whether the Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RMSEA) were indicative of good global model fit. These indices were considered adequate if the CFI was greater than .95 and RMSEA less than .05 (Hu & Bentler, 1999). Global model fit options were requested in Stata using the “estat gof, stats (all)” command. For each model, global model fit was determined to be adequate before assessing individual pathway estimates.

### **Path Hypothesis Testing**

I tested the direct effects from the exogenous variables to the endogenous outcomes (Paths A-F) using the “sem and estat teffects, standardized” commands in Stata. My hypotheses for each path were confirmed if the standardized path coefficients for each path produced in the path analysis was significant and in the direction I predicted and if the confidence interval did not contain 0 (Acock, 2013). I tested path hypotheses G through P, which connect the mediating variables to the independent and dependent variables, using the same logic. If the standardized path coefficients for each path were significant and the confidence intervals did not contain 0, the hypotheses were supported (Acock, 2013). Alternatively, if the standardized path coefficients were not significant or in an alternative direction, the analyses provided negative evidence for hypothesized pathways.

### **Indirect Effects Testing**

Testing the indirect effects of the exogenous variables (effective family functioning, household challenges, and military spouse role satisfaction) on the outcomes (depressive symptoms and job engagement) through positive and negative FTW spillover was conducted using tests of indirect effects in Stata 13. Stata 13 provided direct, indirect, and total effects for all of the linking pathways. However, because there were two mediators, the indirect effect from one independent variable to one outcome could be through either mediator. I hand calculated the unique indirect effect by multiplying the unstandardized path coefficients for each path section of the indirect effect. I utilized the “nonlinear comparison” command to obtain the *p* values of significance and confidence intervals for the unique indirect effects. A mediating effect of positive or negative FTW spillover was evaluated by inspecting any significant indirect effects from an exogenous variable to an endogenous outcome variable through an endogenous mediating variable.

### **Moderation Hypothesis Testing**

In order to evaluate whether the model differed for the deployed and non-deployed groups, I created a multi-group model that separated the sample into deployed and non-deployed groups using the group command. Individual pathways were tested for moderation by deployment status (deployed or not deployed) using nested model testing in which a chi square difference test compared a constrained and free to vary pathway to see if the two groups' path coefficients were statistically different from one another (Little, 2013). Individual pathways were tested for moderation by deployment status (deployed or not deployed) using the "estat invariant command," which provided the chi square value as well as the *p* value of significance (Acock, 2013). A path was defined as different for the deploying and non-deploying groups if one of the path's chi square values were statistically significant.

## RESULTS

### Meeting Assumptions

In order to interpret the path analysis results in a valid and accurate manner, the data and model were determined to meet assumptions put forth by Kline (2012). The analyses in the current study were conducted only after determining that the data and hypothesized models met the following five assumptions (Kline, 2011; 2012):

1. There must be temporal precedence to order the independent and dependent variables.
2. There must be observed covariation between each variable pair with a hypothesized pathway.
3. The data must demonstrate normality as well as be free from multi-collinearity and influential outliers.
4. Each variable must exhibit adequate internal validity.
5. There must be isolation within the relationships by ensuring other extraneous variables likely affecting the statistical association are measured and controlled for.

The final path analysis models and data were not in violation of assumptions regarding temporal precedence, covariation, normality, internal validity, or isolation of relationships.

The first assumption stated that there must be temporal precedence to order independent and dependent variables (Kline, 2012). In the current study, there were two time points as well as baseline, pre-deployment level controls, when applicable. For example, for the direct effects in Figure 1, T1 variables were used as independent variables for T2 outcome variables. T1 consisted of data from spouses experiencing deployment on average three months into deployment. T2 consisted of data on average six months after T1 and nine months into deployment. For the outcomes of depressive symptoms and job engagement, pre-deployment baseline levels were utilized as control variables in the final model, to isolate the relationship between the independent variables and dependent variables. My use of two data points and baseline controls established temporal precedence. Temporal precedence, however, did not provide a sufficient design to imply causation and the results of the current study were presented within that limitation.

Second, in order to test the assumption of observed covariation between variables with hypothesized pathways, a correlation matrix was completed and evaluated for established covariation for each hypothesized path. Please see the correlation matrix in Table 2. Absolute value of the correlations for each of the hypothesized pathways ranged from .18 to .40 and were statistically significant ( $p < .05$ ) with the following exceptions: Military spouse role satisfaction was unrelated to positive and negative FTW spillover, depressive symptoms, and job engagement. Military spouse role satisfaction as an independent variable was not included in the final path analyses, because the variable did not co-vary with any endogenous variables in the hypothesized models in Figures 1 and 2. The removal of military spouse role satisfaction from path analyses was contradictory to hypothesized pathways E, F, K, and L as well as indirect effects hypothesized 2a and 2b. The current sample and data did not support relationships between military role satisfaction with family-to-work spillover (positive or negative), job engagement, or depressive symptoms.

Third, each variable demonstrated normality as evidenced by skewness, kurtosis, and Mahalanobis distance within a normal range. For each variable in the path analysis, skewness absolute values ranged from .05 to .84 and kurtosis absolute values ranged from .03 to 1.59. These values fell within the recommended range for normal as put forth by Howell (2007) and transformation was not necessary. In addition to normality, the variables utilized for path analysis were assessed for problematic multi-collinearity using the methods outlined by Kline (2011). Each variable was regressed onto all others, repeating until each variable has been the outcome regressed on all other variables. This series of seven multiple regressions revealed  $R^2$  values ranging from .06 to .29. Tolerance values ranged from .71 to .99 and VIF values ranged from 1.01 to 1.41. These values all fell within recommended values put forth by Kline (2011) and there were no redundant variables. The data were assessed for multivariate outliers using the Mahalanobis distance. Using the chi-square probability table, a cut-off value for 4 degrees of freedom and  $p = .05$  was 9.49. Five cases exceeded the probability cut-off (9.55, 9.59, 10.09, 11.36, 13.02). Inspection of these responses determined that the responses were valid and within the scale range. These cases answered consistently at the extreme positive end of scales or negative end of scales. These cases were retained.

In order to demonstrate internal validity and meet the fourth assumption set forth by Kline (2012), Cronbach's alpha was calculated for each multi-item scale utilized in the path

analysis, with the following results: family functioning (FAD; .81), deployment challenges (.80), military spouse role satisfaction (.79), positive FTW spillover (.81), negative FTW spillover alpha (.84), and depressive symptoms (CESD: .79). The internal reliability estimates were adequate and the assumption of internal validity was met (Kline, 2012).

Steps were taken in the path analyses to meet the fifth assumption, that there must be isolation within the relationships by ensuring other extraneous variables likely affecting the statistical association are measured and controlled for. The following variables were evaluated for inclusion in the path analyses as control variables: age, length of relationship, gender, marital status, full- or part-time work status, children living in the home, income, and paygrade. Relevant analyses were included in model C below.

### **Mean Differences**

Each variable in the path analysis model was evaluated for mean differences between the deploying and non-deploying groups (See Table 3.). The deploying group had more negative FTW spillover and less positive FTW spillover at D1 when compared to the non-deploying group. The remaining model variables were not significantly different between the deploying and non-deploying groups.

### **Path Analysis Models**

Initial analyses revealed that modeling direct and indirect pathways separately as originally hypothesized in Figures 1 and 2 resulted in poor global model fit. Modeling direct and indirect pathways simultaneously resulted in adequate global model fit. Pathways proposed in Figures 1 and 2 were estimated simultaneously and tested using four models. First, model A was estimated with all of the direct and indirect paths in Figure 1. Second, model B was created by trimming paths one at a time starting with the lowest coefficient until all of the paths were significant. Third, model C was created by adding demographic controls to model B in order to evaluate relationships after controlling for variance accounted for by relevant demographic variables. Finally, in Model D, predeployment baseline levels of depressive symptoms and job engagement were regressed onto the T2 levels of these outcomes to determine what variance was attributed to the independent variables above and beyond time. For each model A through D, there were error terms associated with each endogenous variable and the error terms of positive

and negative FTW spillover were correlated. Additionally, each exogenous variable was correlated with every other exogenous variable.

### Model A

Model A tested the relationships between the exogenous variables of family functioning and deployment challenges and the mediators of both positive and negative FTW spillover as well as the outcomes of job engagement and depressive symptoms. All direct and indirect paths were estimated as seen in Figure 4. Model fit was adequate ( $\chi^2(2) = 2.18, p = .33, CFI = .98, RMSEA = .02$ ). The following pathways were significant (standardized path coefficient, non-standardized path coefficient, standard error,  $p$  value; See Table 3):

1. Path B: Family functioning  $\rightarrow$  Job engagement (.24,  $B = .48, SE = .22, p < .05$ )
2. Path C: Deployment challenges  $\rightarrow$  Depressive symptoms (.32,  $B = 3.09, SE = .94, p < .01$ )
3. Path J: Deployment challenges  $\rightarrow$  Negative FTW spillover (.34,  $B = .41, SE = .10, p < .01$ )
4. Path N: Positive FTW spillover  $\rightarrow$  Job engagement (.25,  $B = .32, SE = .14, p < .05$ )

Better family functioning was associated with higher levels of job engagement. Higher levels of deployment challenges were associated with higher levels of negative FTW spillover and also higher levels of depressive symptoms. More positive FTW spillover was associated with more job engagement. These initial results offered preliminary evidence for the hypothesized pathways of B, C, J, and N.

### Model B

Model B was created by trimming single paths with the lowest standardized coefficients one at a time until all pathways in the path analysis were significant and adequate global model fit was maintained. The resulting model B can be seen in Figure 5. This was done to create a more parsimonious model and to regain degrees of freedom in order to add time and demographic controls in Models C and D. Model fit was adequate as evidenced by the following global model fit estimates:  $\chi^2(14) = 21.91, p = .08, CFI = .96, RMSEA = .03$ . The following pathways were significant (standardized path coefficient, non-standardized path coefficient, standard error,  $p$  value; See Table 3):

1. Path B: Family functioning → Job engagement (.22, B = .43, SE = .22,  $p < .05$ )
2. Path C: Deployment challenges → Depressive symptoms (.41, B = 3.91, SE = .81,  $p < .01$ )
3. Path D: Deployment challenges → Job engagement (-.18, B = -.30, SE = .18,  $p = .10$ )
4. Path G: Family functioning → Positive FTW spillover (.18, B = .28, SE = .13,  $p < .05$ )
5. Path J: Deployment challenges → Negative FTW spillover (.35, B = .41, SE = .09,  $p < .01$ )
6. 3. Path N: Positive FTW spillover → Job engagement (.24, B = .31, SE = .13,  $p < .05$ )

There was a positive relationship between family functioning and both positive FTW spillover and job engagement such that more effective family functioning was associated with more positive FTW spillover and job engagement. More positive FTW spillover was also associated with more job engagement. Deployment challenges were positively related to both negative FTW spillover and depressive symptoms, indicating that more challenges experienced were related to more negative FTW spillover and depressive symptoms. Finally, there was a negative relationship, at the level of a trend, between deployment challenges and job engagement demonstrating that greater challenges experienced were related to less job engagement. The significant pathways in model B provided additional evidence for the hypothesized pathways of B, C, G, N, and J. There was limited evidence in the form of a trend between deployment challenges and job engagement (Path D). From model A to model B, the pathway from effective family functioning to positive FTW spillover (Path G) became an additional significant pathway as well as the trend relationship between deployment challenges and job engagement, likely due to a more parsimonious and better powered model.

### **Model C**

In order to determine whether the documented relationships in models A and B existed after the effects of demographic factors were taken into account, model C comprised demographic factors regressed onto the outcomes as control variables. In order to meet the assumptions of path analysis put forth by Kline (2011), only control variables that were significantly related to the outcomes were utilized. I evaluated the relationships between

potential demographic variables and the outcomes of depressive symptoms and job engagement using regressions, bivariate correlations, and one-way ANOVAs. The following factors were regressed onto the outcomes of job engagement and depressive symptoms: age, gender, years in the relationship, income, marital status, number of children in the home, GM paygrade, full or part-time job status, and years in employment status. None of these variables were significantly related to either outcome in the regressions. Continuous variables also were evaluated for a relationship to outcome variables using a bivariate correlation (i.e. age, years in the relationship, income, number of children in the home, and years in employment status) and were unrelated to either outcome. One-way ANOVA's revealed significant differences in depression based on marital status. In addition, there were significant differences in both job engagement and depressive symptoms depending on the GM's paygrade. The remaining control variables were unrelated to either outcome and excluded from further path analyses.

Model C was created by adding the demographic variables of marital status and paygrade to the path analysis in model B, regressing them onto both outcomes of depressive symptoms and job engagement. The coefficients for the paths from marital status to both job engagement and depressive symptoms were not significant and were trimmed. The coefficients for the paths from GM paygrade to job engagement and depressive symptoms were significant at the level of a trend and retained,  $p < .10$ . The resulting model was presented in Figure 6. Global model fit was adequate,  $\chi^2(18) = 23.60$ ,  $p = .17$ , CFI = .97, RMSEA = .03. The following standardized path coefficients were significant in model C (standardized path coefficient, non-standardized path coefficient, standard error,  $p$  value; See Table 3):

1. Path B: Family functioning  $\rightarrow$  Job engagement (.21, B = .42, SE = .21,  $p < .05$ )
2. Path C: Deployment challenges  $\rightarrow$  Depressive symptoms (.41, B = 3.96, SE = .80,  $p < .01$ )
3. Path D: Deployment challenges  $\rightarrow$  Job engagement (-.17, B = -.29, SE = .18,  $p = .10$ )
4. Path G: Family functioning  $\rightarrow$  Positive FTW spillover (.18, B = .28, SE = .13,  $p < .05$ )
5. Path J: Deployment challenges  $\rightarrow$  Negative FTW spillover (.35, B = .41, SE = .09,  $p < .01$ )
6. Path N: Positive FTW spillover  $\rightarrow$  Job engagement (.22, B = .28, SE = .13,  $p < .05$ )
7. GM paygrade  $\rightarrow$  Depressive symptoms (-.16,  $p = .06$ )

8. GM paygrade → Job engagement (.16,  $p = .09$ )

With the addition of the GM's paygrade as a demographic control variable, both the direction of relationships for each path and the pattern of significance in model C were identical to model B. Thus, model C provided further evidence for the hypothesized pathways of B, C, D, G, J and N.

### Model D

In order to test whether the documented relationships in model B and C persisted after accounting for baseline levels of job engagement and depressive symptoms, model D was created by adding pre-deployment levels of both outcomes to model C. Pre-deployment levels of depressive symptoms and job engagement were regressed onto the corresponding variable's deployment levels. The resulting model had adequate global model fit ( $\chi^2(15) = 23.26, p = .08$ , CFI = .95, RMSEA = .05) as seen in model D (see Figure 7). The following standardized path coefficients were significant in model D (standardized path coefficient, non-standardized path coefficient, standard error,  $p$  value; See Table 3):

1. Path C: Deployment challenges → Depressive symptoms (.23,  $B = 2.34, SE = .82, p < .01$ )
2. Path D: Deployment challenges → Job engagement (-.21,  $B = -.36, SE = .18, p < .05$ )
3. Path G: Family functioning → Positive FTW spillover (.18,  $B = .28, SE = .13, p < .05$ )
4. Path J: Deployment challenges → Negative FTW spillover (.34,  $B = .40, SE = .09, p < .01$ )
5. Path N: Positive FTW spillover → Job engagement (.25,  $B = .32, SE = .13, p < .01$ )
6. Pre-deployment job engagement → Deployment job engagement (.28,  $p < .01$ )
7. Pre-deployment depressive symptoms → Deployment depressive symptoms (.42,  $p < .01$ )
8. GM paygrade → Deployment job engagement (.16,  $p = .09$ )

As expected, baseline levels of job engagement and depressive symptoms were positively related to the deployment levels with small to moderate standardized coefficients. Consistent with model C, family functioning was positively related to positive FTW spillover and deployment challenges were still positively related to negative FTW spillover. Positive FTW spillover remained related to job engagement in a positive fashion. Deployment challenges remained

consistently related to depressive symptoms. Positive FTW spillover was associated with increases in job engagement from pre-deployment to deployment. Deployment challenges were directly related to increases in depressive symptoms from pre-deployment to deployment. The path from family functioning to job engagement found in model C dropped from significance in model D (.16,  $p = .12$ ) and the relationship between deployment challenges and job engagement, significant at the level of a trend in models B and C, was significant in model D. Deployment challenges were related to decreases in job engagement from pre-deployment to deployment. The paths from paygrade to both deployment job engagement and depressive symptoms were not significant. Models A through D provided consistent evidence for the hypothesized pathways of C, G, N, and J and more tenuous evidence for pathways B and D.

Models A through D provided information to test RQ1 and RQ2 posed at the beginning of the current study. Research question one asked the following: How do family-related strengths and challenges relate to military partners' experiences of FTW spillover? Effective family functioning was a strength associated with positive FTW spillover such that more effective functioning was related to more positive FTW spillover. Recent household challenges were a strain that was associated with negative FTW spillover such that more household challenges were related to more negative FTW spillover. Military spouse role satisfaction was a potential resource that was not related to either positive or negative FTW spillover. Research question two asked the following: How does FTW spillover relate to partners' depressive symptoms and job engagement? Positive FTW spillover was associated with job engagement such that more positive FTW spillover was related to higher job engagement. Negative FTW spillover was not related to either job engagement or depressive symptoms.

### **Testing Indirect Effects**

Most of the significant pathways in Models A through D were direct pathways, contradicting hypotheses 1-3. There was only one indirect path available to test, offering possible support for the following hypothesis 1b: that positive FTW spillover mediates the relationship between family functioning and job engagement. There were significant pathways from family functioning to positive FTW spillover to job engagement. The indirect effects were tested using model D, with the addition of the direct pathway from family functioning to job engagement. The total effect for family functioning on job engagement was .43 (SE = .06,  $z = 1.92$ ,  $p = .06$ ),

at the level of a trend. The direct effect for family functioning on job engagement was .33 (SE = .23,  $z = 1.47$ ,  $p = .14$ ), smaller than the total effect and not significant. The indirect effect of family functioning that passes through positive FTW spillover was a trend equal to .10 (SE = .06,  $z = 1.68$ ,  $p = .09$ ). The proportion of the total effect that was indirect (.10/.43) was equal to .23. There was limited evidence of an indirect effect through positive FTW spillover in the relationship between family functioning and job engagement. The direct effect of family functioning on job engagement was smaller than the total effect and not significant. There was a trend level indirect effect of family functioning on job engagement through positive FTW spillover. The results demonstrate a partial indirect effect in which there was a decrease in the direct effect.

The results from testing indirect effects provided information to answer the following RQ3 posed at the beginning of the current study: Do positive and negative FTW spillover mediate the relationships between family related strengths/challenges and depressive symptoms and job engagement? There was some trend level evidence of an indirect effect through positive FTW spillover on the relationship between family functioning and job engagement. There was not further evidence of indirect effects from family strengths/challenges to the outcomes of depressive symptoms and job engagement through either positive or negative FTW spillover.

### **Testing Group Differences: Deploying vs. Non-Deploying**

I hypothesized group differences for several paths between the deploying ( $n = 136$ ) and non-deploying groups ( $n = 80$ ). More specifically, I hypothesized that relationships involving military spouse role satisfaction would be stronger in the deploying group. Because military spouse role satisfaction was not related to other variables at the level of a bivariate correlation, it was not included in path analyses.

In order to test for moderation by deployment status for other pathways, I conducted nested chi-square comparison tests of constrained vs. unconstrained models across the two groups. First, I returned to model A and began by trimming paths that were not significant in both groups, starting with the lowest standardized coefficients. The paths were trimmed in the following order: negative FTW spillover to job engagement (Path P), family functioning to depressive symptoms (Path A), and positive FTW spillover to depressive symptoms (Path M). The remaining paths were significant in at least one of the groups. The chi-square value for the

resulting unconstrained model was  $\chi^2(8) = 4.16$ . The nested chi-square comparison of the fully constrained model offered a chi square value that increased to  $\chi^2(17) = 16.98$ . The difference was  $\chi^2_{\text{diff}}(9) = 12.82$ , which was less than the  $p = .05$  cut off value ( $\chi^2(9) = 16.92$ ) from the chi-square distribution. This result of the nested chi-square comparison suggested that there were not differences in the overall model between the deployed and non-deployed groups. As a follow-up, each individual path was evaluated for group differences by constraining a single path at a time and comparing the chi-square value to the unconstrained model chi-square value. The  $p = .05$  cut off value for the constrained path chi-square differences was  $\chi^2(1) = 3.84$ . As seen below, all but one of the individual path chi-square difference values were not significant, suggesting that most paths in the model did not vary according to deployment status. There was one exception; the path from negative FTW spillover to depressive symptoms was significantly different depending on deployment status. The nested chi-square difference results for each path were as follows:

1. Path G: Family functioning  $\rightarrow$  Positive FTW spillover ( $\chi^2(9) = 4.26$ ;  $\chi^2_{\text{diff}}(1) = .10$ )
2. Path N: Positive FTW spillover  $\rightarrow$  Job engagement ( $\chi^2(9) = 5.62$ ;  $\chi^2_{\text{diff}}(1) = 1.46$ )
3. Path B: Family functioning  $\rightarrow$  Job engagement ( $\chi^2(9) = 5.21$ ;  $\chi^2_{\text{diff}}(1) = 1.05$ )
4. Path H: Family functioning  $\rightarrow$  Negative FTW spillover ( $\chi^2(9) = 4.32$ ;  $\chi^2_{\text{diff}}(1) = .16$ )
5. Path I: Deployment challenges  $\rightarrow$  Positive FTW spillover ( $\chi^2(9) = 7.32$ ;  $\chi^2_{\text{diff}}(1) = 3.16$ )
6. Path J: Deployment challenges  $\rightarrow$  Negative FTW spillover ( $\chi^2(9) = 4.21$ ;  $\chi^2_{\text{diff}}(1) = .05$ )
7. Path D: Deployment challenges  $\rightarrow$  Job engagement ( $\chi^2(9) = 5.21$ ;  $\chi^2_{\text{diff}}(1) = 1.05$ )
8. Path C: Deployment challenges  $\rightarrow$  Depressive symptoms ( $\chi^2(9) = 6.62$ ;  $\chi^2_{\text{diff}}(1) = 2.45$ )
9. Path O: Negative FTW spillover  $\rightarrow$  Depressive symptoms ( $\chi^2(9) = 9.72$ ;  $\chi^2_{\text{diff}}(1) = 5.56$ )

For participants whose partners were deployed, there was a significant positive relationship between negative FTW spillover and depressive symptoms (.24,  $B = 1.94$ ,  $SE = .99$ ,  $p = .05$ ), but for participants in the non-deploying group, the relationship was weaker (-.18,  $B = -2.31$ ,  $SE = 1.21$ ,  $p = .07$ ). For those in the deploying group, more negative FTW spillover was associated with more depressive symptoms. The path from negative FTW spillover and depressive symptoms (Path O) was not significant in Models A through D, because the pathway was

significantly different and in opposite directions in the two groups. For deploying families, more negative FTW spillover was associated with more depressive symptoms and in the non-deploying group the relationship was weaker and in the opposite direction. When the path was estimated with both groups simultaneously in Models A through D, the mean relationship was close to 0 and not significant.

The results provided information to answer the following RQ4 posed at the beginning of the current study: Are the model relationships different for partners of GMs experiencing deployment and a non-deploying comparison group. One relationship in the model differed between the two groups. Partners of deployed GMs reported a significant relationship between negative FTW spillover and depressive symptoms, such that more negative spillover was associated with more depressive symptoms. The same relationship was weaker, in the opposite direction, and not significant in the non-deploying comparison group.

## DISCUSSION

The current study filled important gaps in the literature about the experiences of military spouses by exploring the work-family interface during deployment. The processes of positive and negative FTW spillover were compared between a group of employed spouses of GMs who were deployed and those who prepared for a deployment that was ultimately cancelled. The work-family interface was an important area of interest for spouses of deployed service members who are at-risk for depressive symptoms (Mansfield et al., 2010). Work-family conflict has been linked to mood disorders in the past (Frone, 2000) and positive spillover associated with less depressive symptoms (Hammer et al., 2005). By exploring the work-family interface, the current study offered insights into an area of life that may provide additional risk or resilience during the time of deployment.

Overall, the results from the path analyses provided evidence that relationships documented in the broader work-family literature operate similarly in a sample of partners of GMs. In addition, most relationships revealed in the path analyses were similar for partners of deployed and non-deployed GMs, with one notable exception. Participants who had a partner deployed reported more depressive symptoms when they experienced more negative FTW spillover, a relationship that was weaker in the non-deploying group. The data in the current study do not allow for inference of direction; therefore, participants in the deployed group who experienced more depressive symptoms also tended to experience more negative FTW spillover. There was limited evidence for indirect effects through FTW spillover between the independent and dependent variables; instead, most associations were direct relationships, contrary to hypotheses 1-3. However, there was some indication of an indirect effect through positive FTW spillover for the relationship between family functioning and job engagement.

### **Evidence of Work-Family Conflict**

The results revealed several relationships that provided evidence for a role-strain perspective (Goode, 1960) or the presence of work-family conflict (Greenhaus & Beutell, 1985). For partners of both deployed and non-deployed GMs, deployment challenges (or recent challenges for the non-deploying group) were consistently and positively related to depressive

symptoms and negative FTW spillover. The positive relationship between recent household challenges and negative FTW spillover provided information to help answer RQ1. In addition, in the final model with time and demographic controls applied, deployment challenges (recent challenges for the non-deploying group) were negatively related to job engagement. Regardless of deployment status, as everyday familial and logistical challenges increased, negative FTW spillover and depressive symptoms also increased and partners experiencing more household challenges also reported less engagement at work.

Experiencing a service member's deployment has been shown to put at-home partners at risk of depressive symptoms (Mansfield et al., 2010) and parental distress (Lester et al., 2010). At-home parents report numerous challenges associated with deployment including poor emotional well-being, changing roles in their marriage, child behavioral issues, having too many household responsibilities, and not having time for oneself (Chandra et al., 2011). In the current sample, similar challenges were related to more depressive symptoms for partners of both deployed and non-deployed GMs. Regardless of deployment status, more of these everyday challenges within families can become quite stressful and be related to increased depressive symptoms.

Recent household challenges were also consistently related to negative FTW spillover, which provided information to answer RQ1. Consistent with a role strain hypothesis and theories of WFC, more deployment challenges were related to more negative FTW spillover. Experiencing everyday challenges caring for children and a household, while lacking time for self-care was associated with negative family experiences spilling over to one's time at work. For partners of both deployed and non-deployed GMs, the challenges experienced in daily life were related to negative FTW spillover, such that more challenges were associated with more negative spillover. These findings were consistent with Byron (2005) who documented a relationship between family stress and family interfering with work. Grzywacz and Marks (2000) found family burden to be related to negative FTW spillover as well.

The link between household challenges and negative spillover was consistent with role strain theory (Goode, 1960) and a demonstration of work-family conflict (Greenhaus & Buetell, 1985). Increased pressures and challenges from their household were incompatible with the work role when negative family pressures spilled over to work. Previous research has established a relationship between domestic labor and work-family conflict (Jansen, Kant, Kristensen, &

Nijhuis, 2003) and in the current study negative FTW spillover was a specific and often understudied form of work-family conflict (Stevens et al., 2007). In addition, the mean difference between groups demonstrated that the deploying group experienced more negative FTW spillover than the non-deploying group, likely due to increased role pressure from the household domain.

Recent household challenges were also associated with less job engagement for partners of both deployed and non-deployed GMs. Difficulties managing household challenges were related to less engagement at work for partners of GMs. Job engagement refers to “a person’s enthusiasm and involvement in his or her job” (Roberts & Davenport, 2002, p. 21). Further, employees who are engaged in their work utilize their skills and abilities effectively, they find their work stimulating and challenging, and feel personally accomplished in their work (Roberts & Davenport, 2002). Engagement at both work and at home has been described as a process of one role either enriching or depleting engagement from the other role (Rothbard, 2001). In the current study, challenges at home were related to depletion of engagement at work. Other researchers have found similar relationships in civilian populations. Rothbard (2001) discovered in a sample of university employees that evidence of depletion from work to family existed, but only for women and in the WTF direction.

Experiencing less engagement at work may have immediate and longer term implications for partners of GMs. Work engagement has been found to be linked to both intentions to quit and organizational commitment (Saks, 2006). Work engagement also mediates important relationships between its antecedents (i.e. perceived support at work, job characteristics, and rewards and recognition) and outcomes (i.e. organizational commitment and intentions to quit). Experiencing household challenges and the associated decrease in job engagement may lead to less organizational citizenship and poor performance at work for partners of GMs. In addition, they may be less committed to their job and their intentions to quit may increase. If these work concerns persist, employees may actually quit and face unemployment with emotional and financial implications for their families. The relationship between challenges at home and job engagement at a minimum highlighted the trials many employees face balancing their household and work roles when there are extra strains in one domain.

### **Evidence of Work-Family Enrichment**

Consistent with a role enhancement (Barnett & Rivers, 1996) or work-family enrichment (Greenhaus & Powell, 2006) hypothesis, there were positive cross-domain relationships spanning from family to work. First, effective family functioning was associated with more positive FTW spillover. Second, both family functioning and positive FTW spillover were associated with job engagement. These pathways illustrated a process in which effective family functioning can be directly related to employee's engagement at work. In addition, an employee's experience of positive spillover of family experiences to work may enhance their job engagement. However, family functioning was no longer associated with job engagement after accounting for participants' initial levels of job engagement. The deploying group experienced less positive FTW spillover on average than the non-deploying group. Employed participants with deployed spouses were not able to benefit from the process of family enriching work as much as those who didn't have a deployed partner.

The ways in which families effectively communicated, solved problems, and supported one another were related to more positive FTW spillover and more job engagement. These relationships provided evidence for theories of work-family enrichment (Greenhaus & Powell, 2006) and facilitation (Grzywacz & Butler, 2005) as well as information to help answer RQ1. However, the association did not persist once initial levels of job engagement were taken into account. This finding suggests continuity of job engagement for partners of GMs. Guard and Reserve component members generally do not experience military-related geographic mobility, possibly buffering their partners against disruptions to their employment often experienced by their active-duty counterparts (Lim & Schulker, 2010). Partners of GMs may benefit from geographic stability and an established civilian community when it comes to their employment. They may remain engaged at work regardless of deployment or part-time military obligations of the GM. Future research could help identify what specific factors are related to consistent job engagement in order to support military partners who experience a multitude of employment challenges.

Much of the work-family literature has focused on the negative effects of work on family, but family experiences also impact employees at work in both positive and negative ways. This process of spillover from family to work has been described as the "neglected side of the work-family interface" (Crouter, 1984) and has been studied less than the impact of work on family

(Colichi et al., 2016). In the current study, there was evidence of family impacting work in a positive fashion. When employees reported more effective family functioning, they also tended to report more positive FTW spillover. This relationship highlighted the following under-studied areas of the work-family interface: positive spillover (as opposed to conflict or negative spillover) as well as the less studied direction from family to work. This relationship provided evidence that positive family experiences can enhance an employee's work life, known as work-family facilitation.

In the current study, effective family functioning was associated with more positive FTW spillover, which in turn was associated with more job engagement. Positive family experiences were associated with improved outcomes at work. However, there was limited evidence (i.e. trend level effect) of an indirect effect, where part of the relationship between family functioning and job engagement went through positive FTW spillover. Part of the relationship between family functioning and job engagement may be explained by positive FTW spillover. Effective family functioning may be associated with more positive spillover of family experiences to the work place and ultimately increased job engagement. This partial indirect effect was helpful to answer RQ3. There was only limited evidence of an indirect effect through positive FTW spillover, but not negative spillover, on the relationship between family functioning and job engagement.

One alternative theoretical explanation for similarities between work and family was described as congruence by Edwards and Rothbard (2000). In congruence, a process linking work and family, there may be a third variable acting as a "common cause" of experiences in both domains (e.g. personality, behavioral styles, socio-cultural factors, etc; Edwards & Rothbard, 2000). Individuals who are engaged in effective ways in their families may also be engaged at work due to their inherent disposition. Future research could explore the role of congruence between work and family for military spouses by measuring individual disposition and characteristics that relate to similar experiences in both the work and family domains. In the final model, when baseline levels of job engagement were controlled for, the relationship between family functioning and job engagement was no longer significant. If a third factor, such as individual characteristics were responsible for both participants' effective engagement with their family and at work, congruence would help to explain this relationship and relative stability for participants on both family functioning and job engagement.

### **Moderation by Group**

Overall, the relationships documented in the current study highlighted similar evidence of strain and enrichment among family and work for partners of both deployed and non-deployed GMs. In response to RQ4, there was only one difference between the two groups among the pathways modeled. There was a significant, positive relationship between negative FTW spillover and depressive symptoms for the partners of deployed GMs and that same relationship was weak in the non-deployed comparison group. Existing literature provides a picture of both risk and resilience for military spouses experiencing deployment. For example, researchers have documented an increased risk of depression for spouses of deployed service members (Mansfield et al, 2010) with longer deployments and PTSD in service members increasing at-home spouses' risk of psychological symptoms (De Burgh et al., 2011). Others have reported associations between deployment and lower parent-child relationship quality (Lowe, Adams, Browne, & Hinkle, 2012) and marital satisfaction (Burrell et al., 2006). Some researchers have found a buffering effect of deployment on military couples' risk of divorce (Karney & Crown, 2007), while others have found increased risk of divorce for military couples married before the terrorist attacks of 9-11 who later experienced deployment (Negrusa et al., 2014).

The RAND Deployment Life Study (Meadows, Tanielian, & Karney, 2016) randomly selected military families and followed them over a period of three years, during which some families experienced deployment and others did not. Their longitudinal analyses revealed that spouses do experience elevated psychological symptoms during deployment that did not persist beyond reunion. They also found that during deployment, spouses reported decreased parenting satisfaction, but no change in family environment. During the study period, spouses of both deployed and non-deployed service members reported a decrease in marital satisfaction. Both spouses and service members from families in which the service member experienced deployment trauma or physical injury did report persistent psychological symptoms. In addition, spouses reported changes in their children during deployment (e.g. total difficulties, emotional problems, and depressive symptoms), but researchers noted that these shifts may have reflected developmental changes as children matured to teens rather than reactions to deployment itself. Taken together, results of the Deployment Life Study revealed resilience, in which families who experienced deployment differed only in limited ways from those who did not experience

deployment, and negative outcomes associated with deployment did not persist following reunion (Meadows et al., 2016).

Given mixed results regarding the effects of deployment on individual well-being and family-related outcomes, in addition to the lack of research about the work-family interface for spouses of deployed partners, making predictions regarding group differences in the processes of positive and negative spillover in the current study was challenging. Research with active-duty spouses provided ample evidence that they are more likely to be unemployed, under-employed, and earning less than their civilian counterparts (Lim et al., 2007; Lim & Schulker, 2010). Deployment and service member absence are among the reasons (e.g. deployments, frequent relocation, parenting responsibilities, childcare concerns, etc.) that have been cited as detrimental to their employment conditions, but little is known about how deployment, affects the work-family interface for at-home partners, particularly those affiliated with the reserve component. The current study added to the literature by offering some insight into the work and family interface for partners of part-time National Guard members as well as partners of full-time deployment activated Guard members.

Overall, the deploying and non-deploying groups were similar to one another and mirrored what researchers would expect from a civilian sample. Positive family experiences were related to positive FTW spillover, which was related to job engagement. Challenges at home were related to negative FTW spillover as well as depressive symptoms. There was one significant difference between the deploying and non-deploying group. For the deploying group, experiencing more negative FTW spillover was associated with more depressive symptoms and this relationship was not present in the non-deploying group. In the presence of added strain from deployment, negative FTW spillover became more consequential for spouses' mental health.

For deploying families, experiencing negative spillover from family life to work was problematic and associated with reports of more depressive symptoms. Difficulty managing household responsibilities during deployment has been reported by spouses (Chandra et al., 2011; Steelfisher et al., 2008). Challenges at home were related to more negative FTW spillover for both groups, but only in the deploying group was that spillover significantly related to later depressive symptoms. This finding was especially relevant for partners of deployed service members, who are at an increased risk for depressive symptoms (Mansfield et al., 2010). Negative spillover from family to work may be a contributing factor to partners' increased

depressive symptoms during deployment. Negative FTW spillover had implications for partners of deployed GMs' mental health, but not for participants who weren't experiencing deployment. Literature with civilian populations has also documented a relationship between family interfering with work and psychological strain (O'Driscoll et al., 2003), but for families experiencing additional strain from deployment, this relationship was heightened.

The work-family interface may be a fruitful target of intervention or prevention for partners of deployed service members at risk of poor mental health. The workplace can be a source of positive emotions, which through coping and resilience, has been found to be associated with reduced depressive symptoms for Army spouses (Dolphin et al., 2015). Research has found evidence that adapting workplaces to provide more family-supportive supervision (Hammer, Kossek, Anger, Bodner, & Zimmerman, 2011) and providing a more family-supportive culture (O'Driscoll et al., 2003) can reduce employees' psychological strain stemming from work-family conflict and improving their general health. However, military family service providers cannot practically change military spouses' workplace environments. Military service providers may offer interventions to groups of military spouses that have also been shown effective at helping employees balance work and family with implications for their individual well-being (Allen & Kiburz, 2012; Michel, Bosch, & Rexroth, 2014). Offering education or intervention aimed at helping individuals manage their increasing household demands alongside their employment may help to lessen partners of deploying service members' risk of increasing depressive symptoms.

### **Military Spouse Role Satisfaction**

In response to research question one (How do family-related strengths and challenges relate to military partners' experiences of FTW spillover?), results showed military spouse role satisfaction was not related to positive or negative FTW spillover. During initial analyses, there were no significant correlations between military spouse role satisfaction and the following variables: positive FTW spillover, negative FTW spillover, depressive symptoms, or job engagement. Military spouse role satisfaction was positively related to family functioning and negatively related to deployment challenges. Military spouse role satisfaction was composed of items describing respondents' commitment to their military partner's career, pride in their role as a military spouse, and their personal satisfaction with that role (Department of Defense, 2008).

Before testing path analyses, Kline (2011) discussed a basic assumption that researchers first document a bivariate relationship between two variables before estimating a path. Guided by Kline, military spouse role satisfaction was excluded from further consideration to be analyzed in the models presented in Figures 1 and 2. However, previous work has documented role satisfaction as an important variable when studying the work-family interface. In response to the initial analyses and previous findings, I examined the variable for possible explanations. I assessed the normality of the variable distribution and conducted confirmatory factor analyses and found no obvious measurement concerns with military spouse role satisfaction.

Although the lack of association between military spouse role satisfaction and other variables in the hypothesized model was unexpected, there were several explanations to consider in light of other research with military spouses. In the following section, I will describe other research with military spouses and, when applicable, civilian employees linking role satisfaction with variables similar to those in the hypothesized models. In addition, I describe the possible explanations for the absence of relationships between military spouse role satisfaction and other variables in the hypothesized models. Possible reasons for the lack of relationships in the current sample included the following: differences between active-duty and reserve component spouses, focusing on the cross-domain approach as opposed to the similarity hypothesis, and the role of more influential environmental factors.

Research conducted with military spouses occupying multiple roles (i.e. spouse, mother, and employee) has found relationships between role satisfaction and depression symptoms. Rosen, Ickovics, and Moghadam (1990) studied active-duty military spouses' role fit, role satisfaction, and its relationship to general well-being. In their sample of military wives who were engaged in either paid employment or full-time unpaid household labor, both role fit and role satisfaction were related to general well-being. Another study of wives of active-duty service members also found a relationship between the spouses' sense of military community and their psychological well-being (Wang, Nyutu, Tran, & Spears, 2015). Despite past research, military spouse role satisfaction was unrelated to depressive symptoms in the current sample.

One reason that military spouse role satisfaction was unrelated to other variables in the hypothesized model may be their status as National Guard spouses, who may feel their role as a military spouse less centrally than their active-duty counterparts. Their partners serve part-time in the military, usually spending a weekend a month and two weeks a year in training. The

research cited above, which found associations between role satisfaction and psychological health, was conducted with active-duty component populations. Even when their service members are activated to full-time active-duty status in support of deployment operations, the at-home partners remain immersed in mostly civilian communities and support systems. The partners of Guard and Reserve members may not experience strong links between their role satisfaction as a military spouse and other parts of their life because their role as a military spouse is somewhat distant from their daily life.

Limited research has addressed the links between military spouse role satisfaction and job engagement or FTW spillover. Military spouses have reported positive feelings regarding deployment including a sense of confidence, pride, patriotism, personal growth, and independence (Castaneda et al., 2008; Newby et al., 2005). A role enhancement perspective would have suggested that the positive aspects of participants' role as a military spouse would be associated with positive FTW spillover and job engagement through a process of values-based spillover (Hanson et al., 2006), role accumulation (Marks, 1977), or work-family enrichment (Greenhaus & Powell, 2006).

In the current study, we may have found a relationship between military spouse role satisfaction and FTW spillover or job engagement if we studied the relationship according to the similarity hypothesis. The lack of a relationship between military spouse role satisfaction and job engagement was consistent with the similarity hypothesis, as opposed to the cross-domain hypothesis (Amstad et al., 2011). In a meta-analysis of family interfering with work and work interfering with family, Amstad et al. found that role conflict had stronger associations with outcomes in the same domain. The relationships between military spouse role satisfaction and FTW spillover or job engagement would be a cross-domain relationship, which Amstad et al. (2011) found less evidence for this type of relationship than the same-domain relationships in their meta-analysis.

Other researchers have posited that work-family facilitation processes may be more dependent upon environmental variables including demands and resources (Boyar & Mosley, 2000). The other independent variables in the models (i.e. deployment challenges and family functioning) may have been more influential as they more closely approximate demands and resources. Together this work provides possible explanations for the disconnection between military spouse role satisfaction and other variables in the originally proposed models in Figures

1 and 2. More research is needed to evaluate whether military spouse role satisfaction is meaningfully connected to FTW spillover, depressive symptoms, and job engagement.

### **Modeling Direct and Indirect Effects Simultaneously**

The results revealed that estimating the direct and indirect effects separately as proposed in Figures 1 and 2 did not fit the current sample. It was necessary to estimate the direct and indirect effects simultaneously to achieve a model that fit the current data well. The direct path from deployment challenges to depressive symptoms (Path C) was necessary for the model to fit the data well. As participants experienced more deployment-related challenges --or daily life challenges in the case of the non-deploying group --they also experienced more depressive symptoms. This relationship was consistently present in all models, remaining even after controlling for the GM's paygrade and baseline levels of depression. If the relationship between deployment challenges and depressive symptoms was not estimated, the models did not fit the data.

The deployment challenges measure asked participants how easy or difficult it had been to care for oneself and handle household responsibilities such as caring for children, completing housework, making family decisions, handling unexpected emergencies, and doing self-care. For the deploying group, the set of items was introduced by saying, "Since the GM deployed, how easy or difficult is it for you to...?" focusing the participant's attention on deployment-related challenges. For the non-deploying group, the items were introduced by saying, "Since the last time we talked, how easy or difficult is it for you to...?" In the current sample of employed spouses of GM's, there was a consistent relationship between these personal challenges and depressive symptoms that was important to the path analysis model fitting the data well. This finding highlights the fundamental relationship between daily stressors and depressive symptoms, regardless of whether challenges are related to deployment or life in general.

### **Limitations**

The findings of the current study should be considered in light of its limitations. First, testing indirect effects using two time points represents a weaker approach than testing with three time points. However, the hypotheses were focused on two waves of data from the time of deployment when partners were physically separated from one another. In addition,

predeployment levels of depressive symptoms and job engagement were utilized as a third wave of data in the final Model, highlighting what relationships persisted after baseline levels of the outcomes were controlled for. Second, the sample size for testing moderation by group may have been underpowered, but when comparing the two groups there was not evidence pointing to group differences that we could have detected with more power. Recommendations for multi-group analyses range from around 100 per group (Acock, 2013) to 200 per group (Kenny, 2011). My analyses were likely limited to documenting large effect sizes for path differences. However, when paths were inspected individually, the coefficients, path directions, and patterns of significance were similar in the deploying and non-deploying groups with the exception of the path from negative FTW spillover and depressive symptoms, which was significantly different between the two groups. The group analyses were likely not affected by power, because there was little indication of path differences outside of the one path that was statistically different between the two groups.

Finally, other limitations were related to measurement. Military spouse role satisfaction was measured using Department of Defense items that have not been used extensively. Spouse role satisfaction was not related to other variables in the current study. This finding may indicate that military spouse role satisfaction was not relevant to participants' work and family lives or that the construct was not captured in a valid manner. Additionally, job engagement was limited to a single-item 4-point scale, possibly restricting variance and the ability to predict variance or change in this measure. One item also likely limited the ability to thoroughly capture the construct of job engagement in the current study. Despite this limitation, positive FTW spillover and effective family functioning were associated with more job engagement. Also, after controlling for baseline levels of job engagement, deployment challenges and positive FTW spillover were associated with job engagement.

## **Conclusions**

The current study has implications for the field of work and family research, employers, and military family service providers. First, the current study provided evidence of cross-domain work-family conflict and work-family enrichment, operating mostly separately, in a sample of partners of National Guard members. Second, the study highlighted numerous consequences for employees facing significant household challenges including less job engagement, more negative

FTW spillover, and depressive symptoms for partners of deployed GMs. The role of household challenges in employees' lives may have implications for how employers should structure workplace culture and the employee supports they offer. Finally, only partners of deployed GMs experienced more depressive symptoms associated with negative FTW conflict. Military family service providers may use that information to better serve partners of deploying service members who are at risk of mental health concerns during deployment.

There were paths of both risk and resilience between family and work for participants in the study. Both the deploying and non-deploying groups experienced work-family conflict, offering empirical support for theories of cross-domain conflict and spillover (Dilworth, 2004; Ford et al., 2007) and documenting a path of risk. Household challenges were related to less engagement at work, more depressive symptoms, and more negative FTW spillover. Participants who experienced more household demands experienced more negative FTW spillover and less job engagement. These findings highlight the challenges that employees face when they struggle with household demands. Participants experienced more negative spillover from family to work as their household challenges increased, providing evidence for a spillover effect. There was evidence for cross-domain relationships in which strain from one domain caused strain in the other domain. For example, household challenges were related to less job engagement. Ultimately, a lack of job engagement may have implications for employees' organizational commitment, turnover-intentions, and overall employment stability. Practical interventions may buffer employees from this process of risk in which family impacts work. Employers who provide family supportive policies and a work place culture of family support may help employees experience less negative spillover and remain engaged at work.

The results provide evidence that employees also experience work-family facilitation and positive spillover (Edwards & Rothbard, 2000; Grzywacz & Butler, 2005), documenting a path of resilience for employees. For both the deployed and non-deployed groups, participants who experienced more effective family functioning also experienced more positive FTW spillover and ultimately more engagement at work. In addition, experiencing less household challenges was associated with more job engagement. These findings provided evidence for the less studied process of work-family facilitation as well as the direction of family to work. The skills and values experienced at home when a family is functioning well can enhance one's experience at work. Employers often see families as a drain to employees and can negatively impact an

employer's view of their workers, especially for women (Correll, Benard, & Paik, 2007). However, family life can provide enrichment to one's work life and the current study provided preliminary evidence of that process.

In the current study, evidence was uncovered for both theories of role strain and role enhancement. Household challenges were an important variable for the relationships demonstrating role strain. For both the deployed and non-deployed groups, household challenges were linked to negative FTW spillover and depressive symptoms, which highlighted how increased family role demands can make it difficult to engage in the work role with implications for individual well-being (Amstad et al., 2011). In addition, there was evidence of work-family enrichment and role enhancement. The positive experiences of family were related to positive FTW spillover, which was related to job engagement. Family can accumulate positive experiences for employees, evidence for role enhancement and work-family enrichment.

Overall, the significant paths documented processes of role strain and role enhancement separately with one exception. Effective family functioning was related to positive FTW spillover, which was related to job engagement. Household challenges were related to negative FTW spillover, which was related to depressive symptoms for partners of deployed GMs. The one exception was household challenges being negatively associated with job engagement. The paths of risk and resilience seemed to operate separately in the current study. Challenges were related to poor outcomes and resources were related to positive outcomes. These findings support research that has found positive and negative spillover as well as work-family conflict and work-family facilitation to be separate and distinct constructs with different antecedents and outcomes as opposed to different ends of a single continuous construct (Grzywacz & Marks, 2000).

The variable of deployment challenges, or recent challenges for the non-deploying group, was an important variable in each model. First, the direct path from deployment challenges to depressive symptoms was crucial for the model to fit the data well and it had the strongest and most numerous relationships with other variables. These findings demonstrate the strain that household challenges provide for employees and individuals in general. Experiencing a lot of challenges at home was moderately associated with more depressive symptoms and negative FTW spillover and also, with a smaller effect size, less engagement at work. Individuals' challenges at home may have more trouble being engaged at work and may be more likely to experience depressive symptoms and negative spillover from family to work. Employers with a

family supportive workplace culture who offer both formal (e.g., paid family leave, dependent care benefits, sick days) and informal supports (e.g., flexible scheduling, supervisor support, remote work) to employees balancing family life and paid employment may see benefits (O'Driscoll et al., 2003). First, their employees may experience less negative FTW spillover and more engagement at work. Second, engaged employees experiencing less negative spillover may experience greater organizational commitment and less intention to quit (Anderson et al., 2002; Batt & Valcour, 2003).

Overall, significant paths were similar for partners of deployed and non-deployed GMs. The strain and enrichment that comes with balancing work and family operated similarly in both groups. However, only the deploying group experienced a link between negative FTW spillover and poorer mental health. This finding has practical implications for partners of deployed service members already at risk of mental health concerns. The work-family interface may be a potential area of intervention to improve the mental health of partners of deployed service members. Pre-deployment education could include strategies to manage increased household challenges alongside paid employment. For partners of deployed service members seeking mental health services, the work-family interface may be an area to evaluate as a source of psychological strain.

The current study could be extended to learn more about the work and family lives of partners of deployed service members. Future research should look at similar spillover processes from demands and resources at work to family life (i.e. the work-to-family direction). It may be useful to more carefully track deployment-related stressors that may differ from what military partners experience during their typical lives to learn what specific stressors encountered during deployment may impact military partners' experiences of work-family conflict and enrichment during deployment. Additionally, research that extends into the period of reintegration would help researchers and service providers determine how partners of deployed service members manage their work and family lives following the service member's return. Do partners start to experience less negative spillover and depressive symptoms upon the service member's return? Do they continue to experience positive spillover associated with effective family functioning and ultimately job engagement? Studying the work-family interface of partners of deployed service members during the reintegration process would provide a more complete picture of consistency or change upon the service member's return.

Future research with partners of military members could evaluate the role of workplace supports (both formal and informal) in helping employees manage increased household challenges associated with military life and deployment. Spouses of active-duty service members are generally underemployed and underpaid compared to their civilian counterparts (Lim & Schulker, 2010). Research could help identify workplace supports that help military spouses manage paid employment despite the challenges of military life. More specifically, during deployment, do workplace supports help buffer partners risk of negative spillover and the associated depressive symptoms?

Overall, the current study contributed new evidence of both work-family conflict and enrichment in partners of GMs. The findings added to the field by evaluating the following two under-studied areas of work-family: the family-to-work direction and the process of positive spillover. The findings identified the work-family interface as a potential area of intervention for partners of deployed service members who are at-risk for psychological strain. The results highlighted processes of both risk and resilience for partners of military members combining work and family life.

Table 1  
*Sample Characteristics for Deploying and Non-deploying Group*

Variable	Deploying (N = 136)		Non-Deploying (N = 80)		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Age*	31.10	8.10	28.94	7.11	
# of years in relationship*	8.13	6.28	6.01	5.19	
# of children	1.90	1.41	1.60	1.55	
# of children living at home	1.34	1.11	1.25	1.38	
GM's # of years in service*	9.66	6.94	7.70	5.38	
GM's # of deployments	1.16	1.41	1.06	1.45	
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	
Gender					
	Female	91	86.7	64	94.1
	Male	14	13.3	4	5.9
Race					
	White	97	92.4	61	89.7
	Black	2	1.9	2	2.9
	Other	6	5.7	5	7.4
Marital Status					
	Never Married	9	8.6	10	14.7
	First Marriage	68	64.8	45	66.2
	Second Marriage	21	20.0	10	14.7
	Separated	1	1.0	0	0
	Divorced	5	4.8	3	4.4
Service Member's Pay					
Grade+	E1 to E3	11	10.5	10	14.7
	E4 to E6	46	43.8	44	64.7
	E7 to E9	12	11.4	3	4.4
	W1 to W5	10	12.3	0	0
	O1 to O3	11	10.5	8	11.8
	O4 to O5	5	4.8	0	0
	Other	2	1.9	3	4.4

Table 1 continued

Combined Annual Gross					
Income +	Less than \$15,000	5	4.8	3	4.4
	\$15,000-\$29,999	14	13.3	10	14.7
	\$30,000-\$45,999	13	12.4	19	27.9
	\$46,000-\$59,999	10	9.5	16	23.5
	\$60,000-\$75,999	10	9.5	7	10.3
	\$76,000-\$89,999	15	14.3	6	8.8
	\$90,000-\$100,000	10	9.5	0	0
	More than \$100,000	17	16.2	5	7.4
	Other	11	10.5	2	2.9
Employment Status					
Employment Status	Full-time	71	67.6	44	64.7
	Part-time	34	32.4	24	35.3
Type of Employee					
Type of Employee	Government	22	21.0	12	17.6
	Private Company	62	59.0	46	67.6
	Self-employed	7	6.7	5	7.4
	Student	5	4.8	2	2.9
	Other	9	8.6	3	4.4
Highest Education Level					
Highest Education Level	Less than 12 <sup>th</sup> grade	0	0	1	1.5
	High school/GED	11	10.5	10	14.7
	Technical certificate	8	7.6	4	5.9
	Some college	29	27.6	20	29.4
	Associate's degree	18	17.1	10	14.7
	Bachelor's degree	29	27.6	18	26.5
	Graduate degree	10	9.5	5	7.4

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\* Denotes a significant group difference calculated by independent samples t-test,  $p < .05$

+ Denotes a significant group difference calculated by likelihood ratio chi-square difference test,  $p < .05$

Table 2

*Correlations Among Path Analysis Variables*

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Family Functioning	4.22	.51	—						
2. Deployment challenges	3.50	.62	-.44**	—					
3. Military Spouse Role Satisfaction	3.92	.61	.25**	-.41**	—				
4. Positive FTW Spillover	3.06	.83	.22**	-.21*	.16	—			
5. Negative FTW Spillover	2.23	.74	-.24**	.38**	-.08	-.33**	—		
6. Depressive Symptoms	9.34	6.02	-.31**	.40**	-.10	-.23*	.21*	—	
7. Job Engagement	3.15	1.06	.18*	-.19*	-.10	.28**	-.18*	.09	—

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

Table 3  
*Mean Differences on Model Variables Between the Deploying and Non-Deploying Groups*

Variable	Deploying Mean (SD)	Non- Deploying Mean (SD)	Mean Difference	T	<i>p</i>
Family Functioning	4.23 (.47)	4.17 (.59)	-.06	-.67	.51
Deployment (Recent) Challenges	3.44 (.62)	3.62 (.61)	.18	1.76	.08
Military Spouse Role Satisfaction	3.92 (.60)	3.90 (.65)	-.02	-.15	.88
Positive FTW Spillover	2.95 (.79)	3.29 (.80)	.34	2.31	.02
Negative FTW Spillover	2.32 (.71)	2.04 (.75)	-.29	-2.21	.03
Depressive Symptoms	15.59 (12.31)	14.66 (12.31)	.93	-.44	.66
Job Engagement	3.22 (1.06)	3.05 (1.07)	-.17	-.75	.45

Table 4

*Unstandardized, Standardized, and Significance Levels for Models A-D in Figures 4-7 (Standard Errors in Parentheses; N = 216)*

<i>Parameter Estimate</i>	<i>Standardized</i>	<i>Unstandardized</i>	<i>Fit</i>
<b>Model A: Full paths</b>			$\chi^2(2) = 2.18, p = .33, CFI = .98, RMSEA = .02$
Family functioning → Job engagement	.24	.48 (.22)*	
Deployment challenges → Depressive symptoms	.32	3.09 (.94)**	
Deployment challenges → negative FTW	.34	.41 (.10)**	
Positive FTW → Job engagement	.25	.32 (.14)*	
<b>Model B: Trimmed ns paths</b>			$\chi^2(14) = 21.91, p = .08, CFI = .96, RMSEA = .03$
Family functioning → Job engagement	.22	.43 (.22)*	
Deployment challenges → Depressive symptoms	.41	3.91 (.81)**	
Deployment challenges → Job engagement	-.18	-.30 (.18)+	
Family functioning → Positive FTW	.18	.28 (.13)*	
Deployment challenges → Negative FTW	.35	.41 (.09)**	
Positive FTW → Job engagement	.24	.31 (.13)*	

Table 4 continued

**Model C: Demographic controls applied** $\chi^2(18) = 23.60, p = .17, CFI = .97, RMSEA = .03$ 

Family functioning→Job engagement	.21	.42 (.21)*
Deployment challenges→Depressive symptoms	.41	3.96 (.80)**
Deployment challenges→Job engagement	-.17	-.29 (.18)+
Family functioning→Positive FTW	.18	.28 (.13)*
Deployment challenges→Negative FTW	.35	.41 (.09)**
Positive FTW→Job engagement	.22	.28 (.13)*

**Model D: Demographic and time controls applied** $\chi^2(15) = 23.26, p = .08, CFI = .95, RMSEA = .05$ 

Deployment challenges→Depressive symptoms	.23	2.34 (.82)**
Deployment challenges→Job engagement	-.21	-.36 (.18)*
Family functioning→Positive FTW	.18	.28 (.13)*
Deployment challenges→Negative FTW	.34	.40 (.09)**
Positive FTW→Job engagement	.25	.32 (.13)**

\*  $p < .05$ , \*\*  $p < .01$ , +  $p < .10$

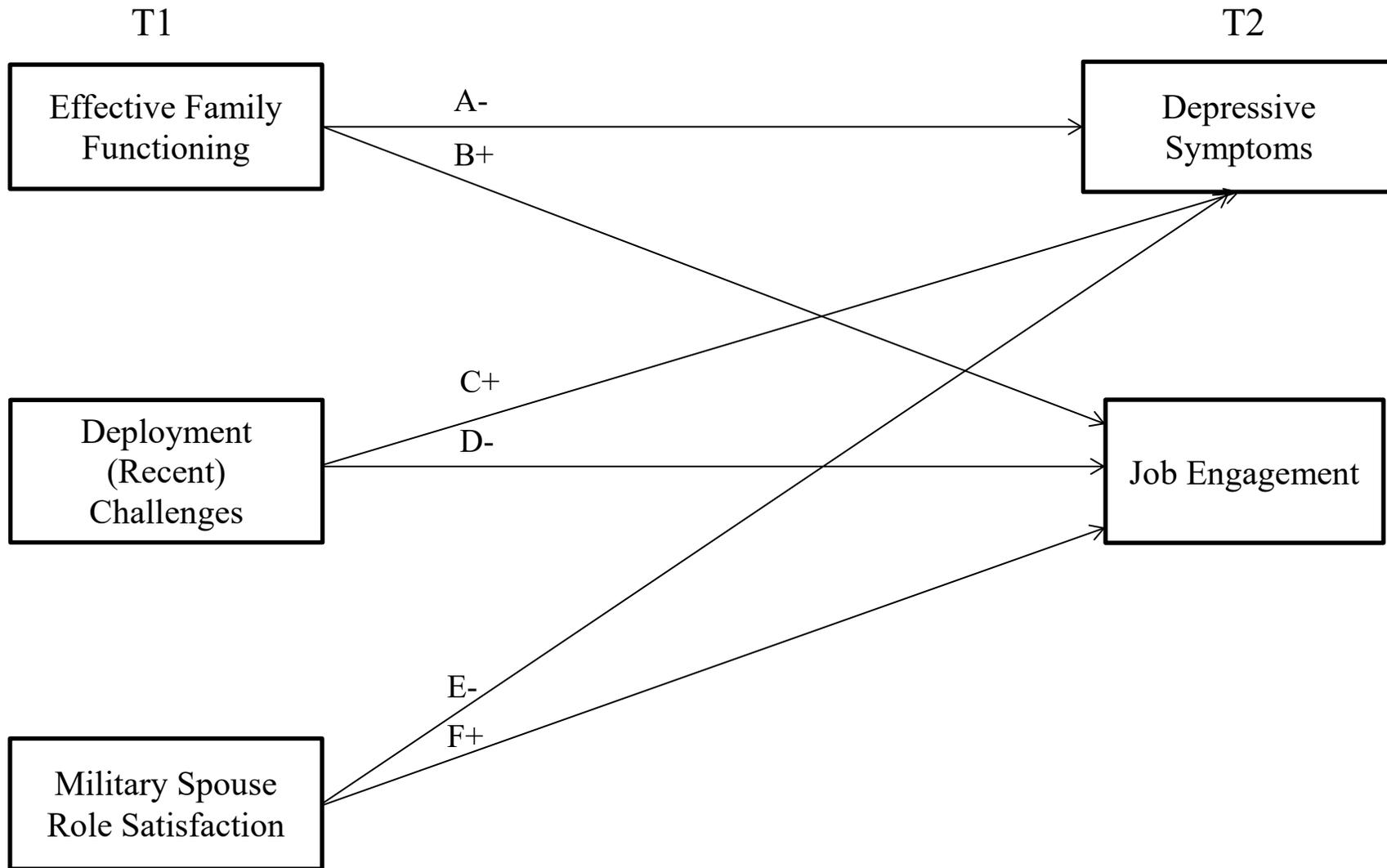


Figure 1. Family-to-Work Conceptual Model: Direct Effects

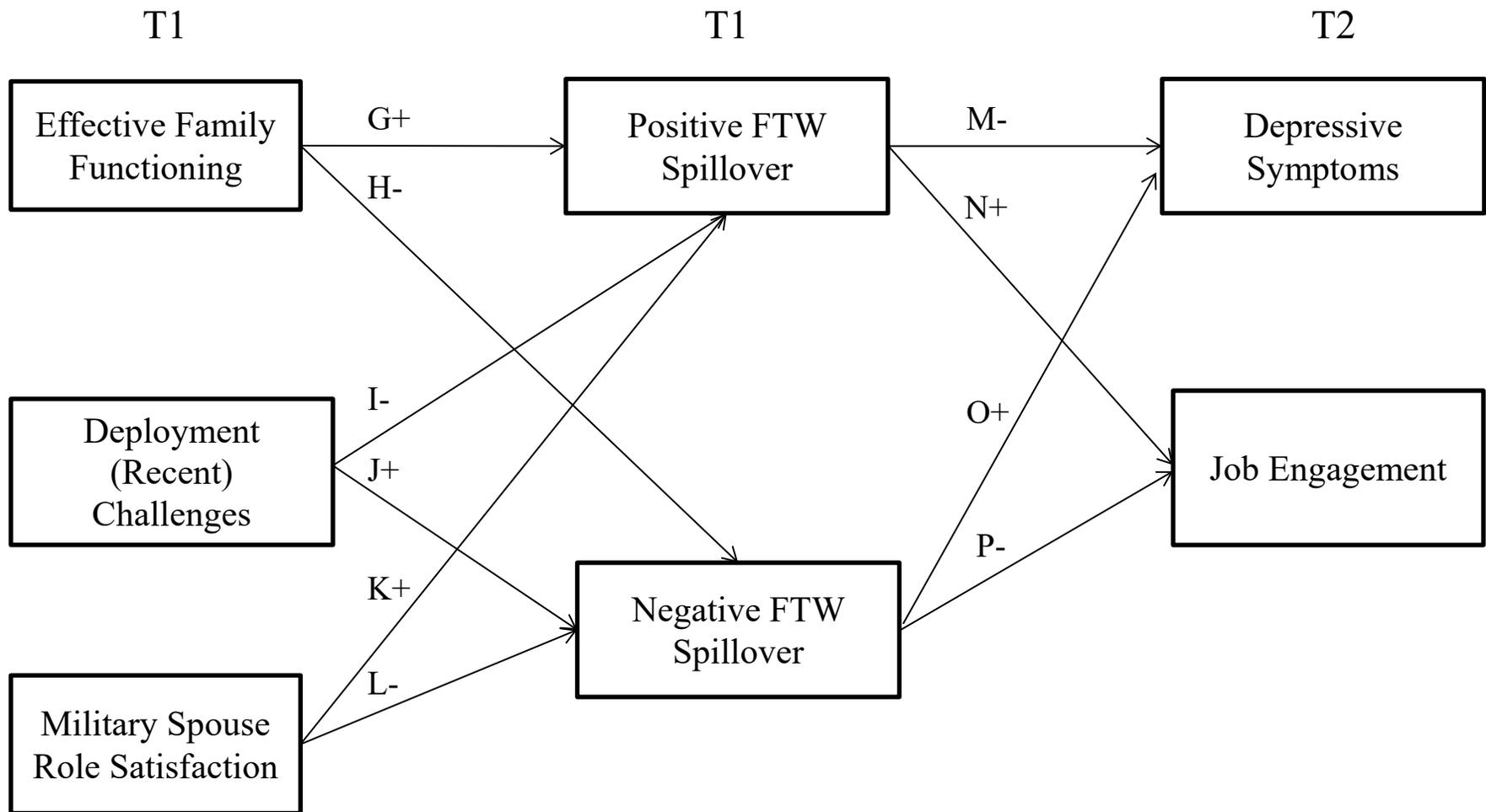


Figure 2. Family-to-Work Conceptual Model: Mediation

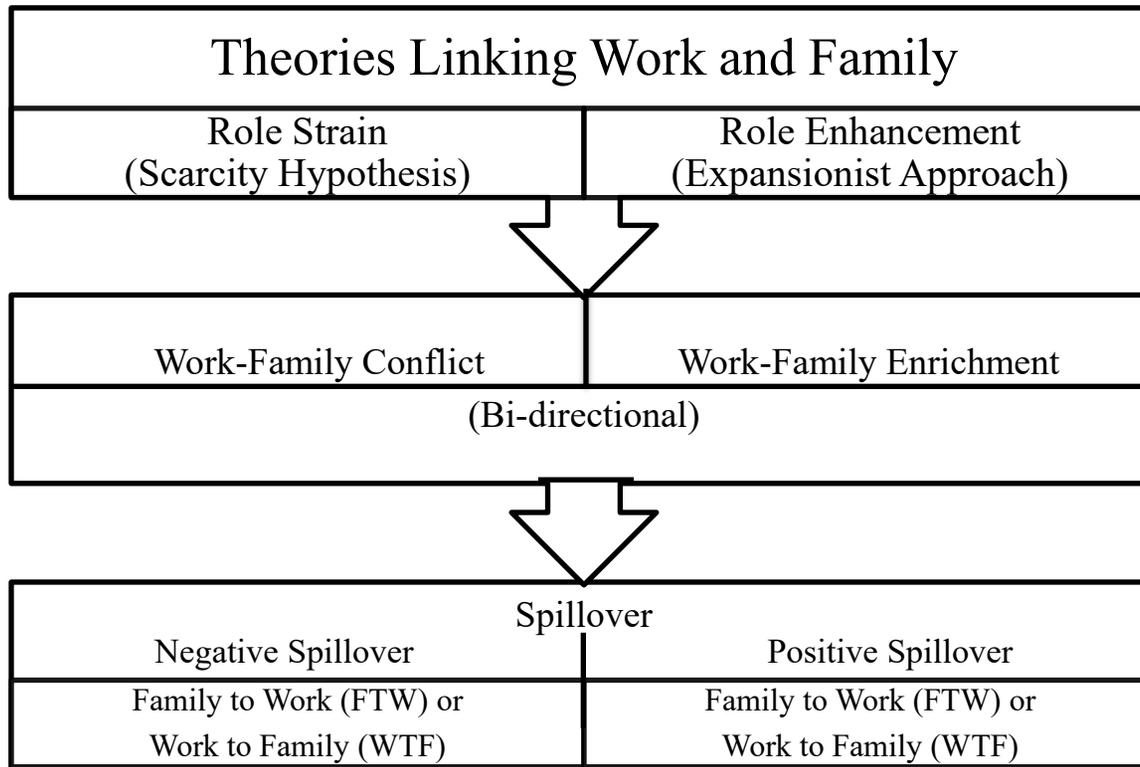
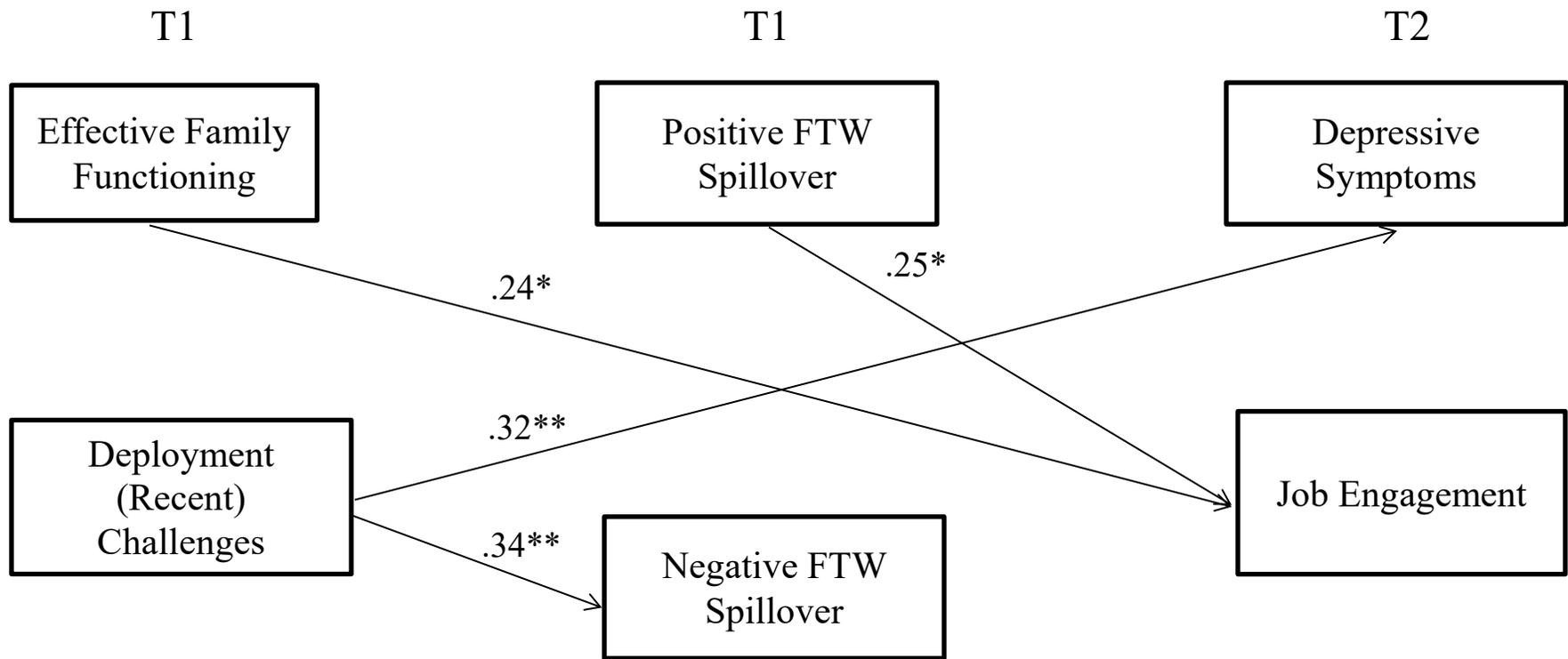


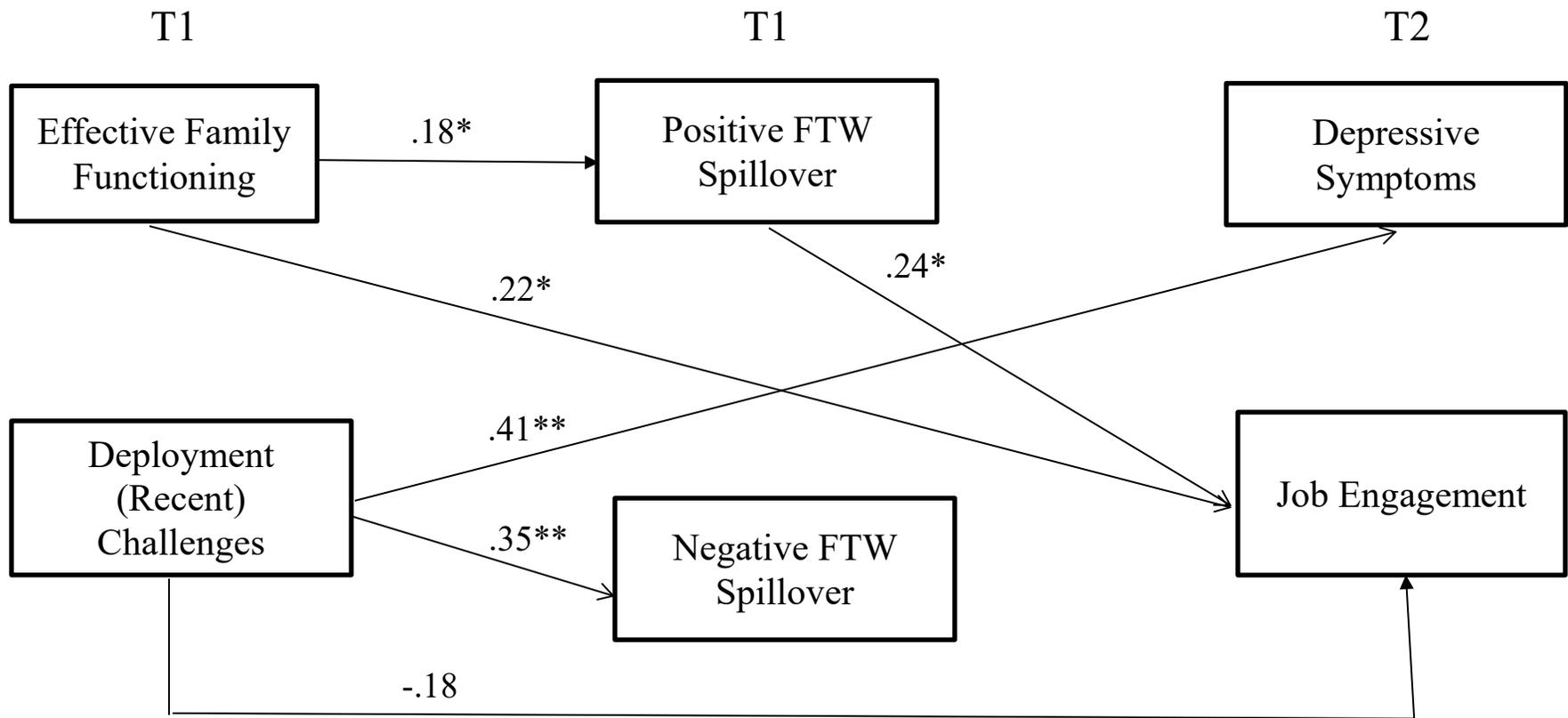
Figure 3. Theories Linking Work and Family



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

Global Model Fit:  $\chi^2(2) = 2.18, p = .33, CFI = .98, RMSEA = .02$

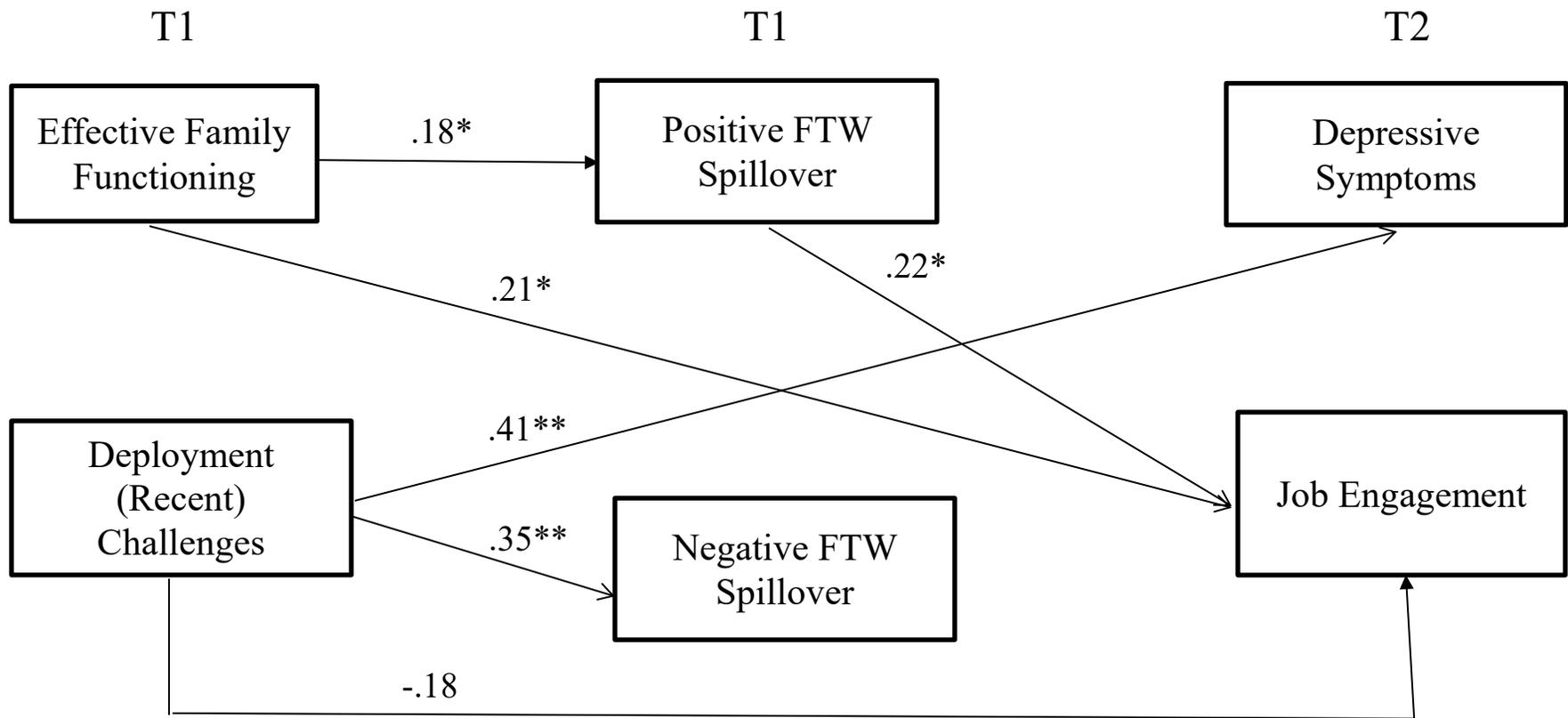
Figure 4. Model A Significant Pathways



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

Global Model Fit:  $\chi^2(14) = 21.91, p = .08, CFI = .96, RMSEA = .03$

Figure 5. Model B Significant Pathways

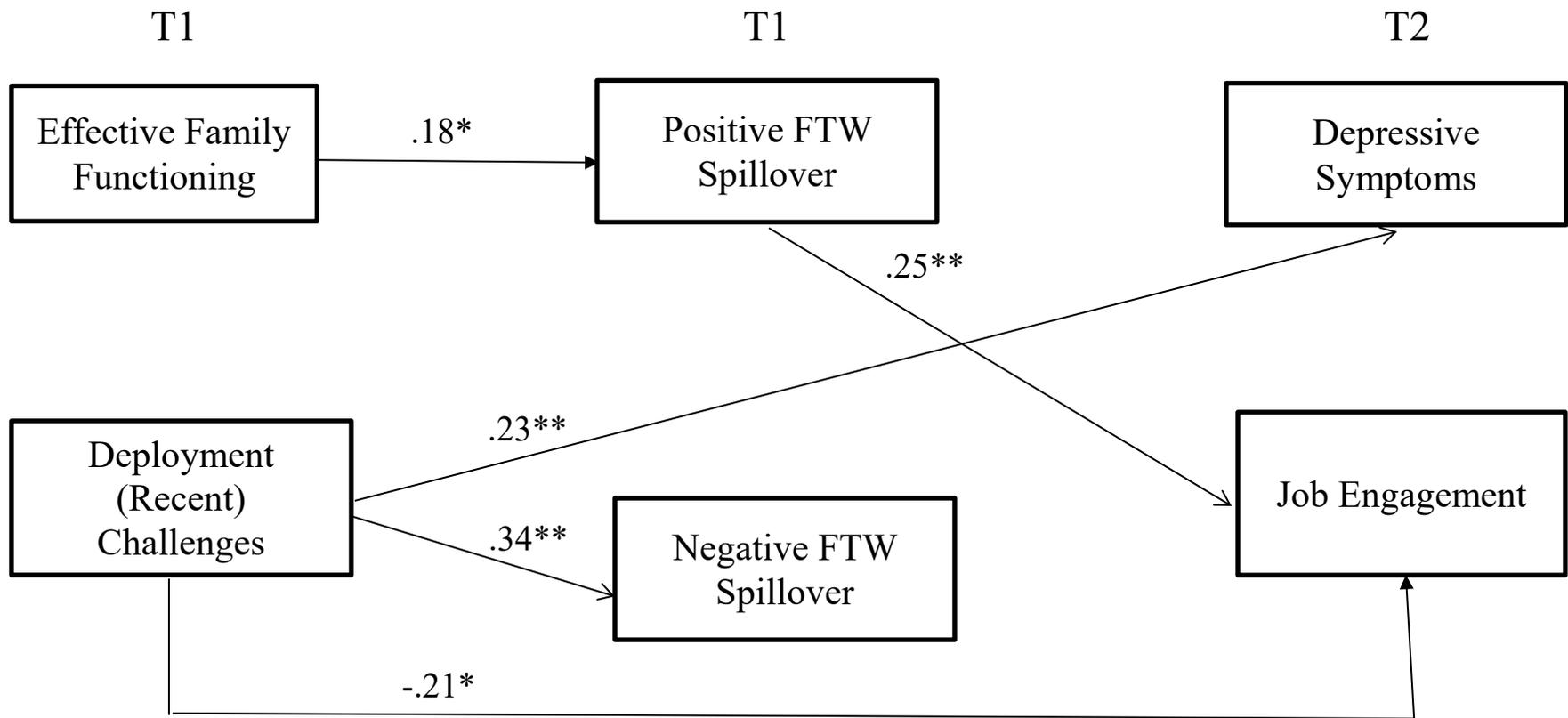


\*  $p < .05$ , \*\*  $p < .01$

Global Model Fit:  $\chi^2(18) = 23.60, p = .17, CFI = .97, RMSEA = .03$

Model Notes: Paygrade regressed on depressive symptoms and job engagement.

Figure 6. Model C Significant Pathways



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

Global Model Fit:  $\chi^2(15) = 23.26, p = .08, CFI = .95, RMSEA = .05$

Model Notes: Paygrade regressed on depressive symptoms.

Predeployment baseline levels of job engagement and depressive symptoms regressed on deployment (T2) levels.

Figure 7. Model D Significant Pathways

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