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PAPER

Understanding the Impact of Deployment on Children and Families

Findings from a Pilot Study of Operation Purple Camp Participants

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WR-566

April 2008

Prepared for the National Military Family Association

Center for Military Health Policy Research

A JOINT ENDEAVOR OF RAND HEALTH AND THE
RAND NATIONAL SECURITY RESEARCH DIVISION

ACKNOWLEDGEMENTS

This pilot study was developed collaboratively with the National Military Family Association (NMFA). We would like to thank NMFA for their generous support of this research. In particular, we appreciate the contributions of Patricia Montes Barron, Cynthia Clagg, Kelly Hruska, Michelle Joyner, and Joyce Wessel Raezer. At RAND, we thank Samantha Abernethy and Michael Dalesio for their hard work in survey preparation and data entry.

We especially want to express our sincere gratitude to the families who participated in this pilot study. We appreciate their time and willingness to share their experiences.

EXECUTIVE SUMMARY

Operation Enduring Freedom (Afghanistan) and Operation Iraqi Freedom (OEF and OIF) have been uniquely characterized by deployments that are often repeated and extended. Research has documented that servicemembers experience significant stress during deployment, and that a substantial minority experience mental health problems. Servicemembers, however, are not the only ones affected by deployment. Many have spouses, children, and other family members. Family members may also experience significant stress related to deployment of their loved ones. Yet to date there is little information regarding the extent to which children and families have been affected, or how deployments may influence child and adolescent behavior or mental health. Further, we do not know how caregivers at home during deployment fare, how they perceive the impact of the deployment on their children, and whether experiences differ for families of active component vs. reserve component personnel. Understanding how family members fare during and after servicemembers' deployment is critical for assessing the need for programs to serve these families and to design them appropriately. In order to help children with their parent's deployment, the National Military Family Association (NMFA) developed Operation Purple Camp (OPC), a summer camp program that children with a deployed parent attend free of charge. In this pilot study, we surveyed families attending this camp to learn more about the experiences of deployment.

Methods

To address this research gap, this study sought to assess the functioning and wellness of children of deployed military personnel. Our study objectives were:

1. To describe the functioning and well-being of children of deployed military personnel over time (baseline and 3 months follow-up), from the perspectives of the child and home caregiver
2. To compare the potential differences in the effects of deployment on functioning and well-being of children by service component (active versus reserve) and deployment status
3. To describe the reasons for attendance and benefits of OPC, from the view of child and caregiver

In August 2007, we conducted baseline, self-administered written surveys with children attending OPC. We visited five camps in five states. The baseline survey was administered on-site before the start of camp activities with children and their home caregivers. In addition, we administered a short, end-of-camp survey assessing youth satisfaction with the camp (at the end of the week-long camp in August 2007). In late November 2007, we mailed follow-up surveys to these children and their caregivers. The baseline and follow-up surveys queried children and caregivers about current health, behavior and functioning, experience of potentially stressful life events, communication with the deployed parent, views on the impact of deployment, and reasons for attending the camp. In addition, we

also administered an end-of-camp satisfaction survey to obtain information on the camp experience, what aspects of Operation Purple Camp worked well, and what could be improved.

In the following sections, we briefly describe key findings. This study offers critical information on the impact of deployment on the well-being of servicemembers' children and families. Findings should be interpreted judiciously because it is a relatively small study and the sample is not representative of all military families who have had a family member deployed.

Key Findings

Caregiver Perspective. Overall, caregivers for children of a deployed parent reported levels of child emotional and behavioral difficulties that were higher than those reported by parents/caregivers in the general population (National Health Interview Survey, 2001). Active component caregivers reported a higher level of challenges with child behavior than reserve component caregivers did. This finding highlights a possible target for intervention. Caregivers from active component families may benefit the most from assistance in addressing child behavioral and mental health needs. On the other hand, reserve component caregivers may need support with respect to their own mental well-being, as they reported slightly more mental health difficulties. During deployment, reserve component caregivers cited more child disengagement, and more challenges with financial well-being. Active component caregivers often conferred more responsibilities on the child (e.g., care of siblings), and these caregivers described having more home responsibilities as well.

Children's Perspective. Children reported that the deployment(s) influenced and somewhat altered the typical behavior of their home caregiver. This experience varied by deployment status and service component. Children from reserve component families identified more difficulties with parent readjustment after that parent returned from a deployment. Likewise, children of active component personnel expressed more anxieties about their home caregiver during deployment and cited trouble with school work. Children of reserve component families reported more trouble from interacting with peers and teachers, who had limited understanding of their deployment experience.

Impact of Operation Purple Camp. We also assessed camp participants' reasons for attending the camp and the benefits of attendance. We found that children and caregivers were interested in camp for the opportunities to meet other military children, gain independence, and enjoy recreational activities. Children and caregivers perceived camp to be highly beneficial, and most families anticipated returning to camp in the following year, thus providing critical support for this type of program.

Conclusion

The findings indicate that children and home caregivers are having difficulties dealing with deployment and programs such as Operation Purple Camp are critical in helping families confront these challenges. While this is a pilot study with limited sample size, our analysis highlights key areas for further investigation. Additional research should explore how family relationships are affected by deployment and reintegration and what social supports and resources can be provided to help home caregivers maintain the household (e.g., paying bills) and care for children who may be experiencing behavioral and emotional difficulties. The differences in child and caregiver experience by component also merit further exploration. It is unclear whether family-level factors that can vary by service component may help to explain dissimilar perspectives on child behavior. A follow-up study should further assess the mental health needs of both child and caregiver, given the stressors identified in our analysis. A longitudinal study with a larger, more representative sample would allow us to examine how functioning and well-being changes over the course of the deployment cycle.

Chapter 1. Introduction

Amid heightened concern about the health and mental health of servicemembers returning from Operation Enduring Freedom (Afghanistan) and Operation Iraqi Freedom (OEF and OIF), little is known about the impact of servicemembers' deployment on children and families or their post-deployment experiences. Current military deployments have tended to be repeated and extended, raising concerns that the impact on servicemembers and their families may be extensive. Research to understand how children and families are faring is important to identify the potential need for programs or other supporting resources and to inform the design of programs addressed to meet the needs these families during and after deployment.

Purpose of the Report

This report represents a first step in trying to fill this research gap by describing the current functioning and wellness of a sample of children attending the National Military Family Association's (NMFA) Operation Purple Camp (OPC) program. Key research aims for this pilot study include:

1. To describe the functioning and well-being of children of deployed military personnel over time (baseline and 3 months follow-up), from the perspectives of the child and home caregiver, as well as the well-being of the home caregiver
2. To compare the potential differences in the effects of deployment on functioning and well-being of children by component (active versus reserve) and deployment status
3. To describe the reasons for attendance and benefits of Operation Purple Camp, from the view of child and caregiver.

Organization of the Report

The rest of this report is organized as follows. Chapter 2 reviews the current literature on servicemembers and their families and the impact of deployment. Chapter 3 presents findings from our pilot study of children at OPC. Chapter 4 offers our conclusions and identifies potential next steps for future research. Please note that in this report, we use **parent** to refer to a mother or father who is deployed, however **caregiver** is used to describe the primary caregiver of the child who participated in the study. This is the non-deployed adult who cares for the child attending camp, and this person may or may not be the legal parent.

Chapter 2. A Review of the Literature

In this chapter, we review the current literature on servicemembers and their families and the impact of deployment. We first review what is known about stressors that servicemembers experience during deployment, and what aspects of deployment may contribute to emotional changes. We then review studies on the impact of deployment on spouse well-being and marriage. Finally, we discuss the research on deployment and child functioning, including the impact on academic and mental health outcomes.

Impact of Deployment of Servicemembers and Families

More than half of current U.S. servicemembers are married (MCFP Demographics Report, 2005). There are currently at least 1.85 million children with one or both parents in the military (1.2 million with parents in the active duty component and 650,000 with parents in the reserve component) (MCEC Military Child Facts, 2007). Further, 1.64 million service members have been deployed, the average length of deployments is 12-15 months, and the average number of deployments is 2.2. As a result, many family members are affected, and there is a need for information about the impact of deployments on them (APA Presidential Task Force, 2007; DoD Mental Health Task Force, 2007).

To date, there is no study specifically focused on the impact of OEF/OIF deployments on families. However, prior research has examined the experience of deployment on U.S. servicemembers and families in other contexts, with particular attention to the impact on spouses/partners and children. Below, we outline relevant findings from current literature on the impact of deployment on children and families and highlight gaps in our understanding about the functioning and well-being of children of deployed parents in current conflicts, both during and after deployment.

Servicemembers experience significant stressors during deployment that may affect the lives of family members.

The stressors that servicemembers face during deployment may influence the experience of family members, both during the deployment and after the return home. During deployment, servicemembers experience several pressures, obstacles, and challenges. For example, servicemembers endure strenuous training activities and physical challenges, long working hours and an intense working pace, infrequent breaks and little time off, close quarters and a lack of privacy, extreme environmental conditions, uncertainty and exposure to danger, and separation from family and friends (Hosek et al., 2006). Many servicemembers also experience intense trauma, such as witnessing injury or death of friends and/or noncombatants, hand-to-hand combat, explosions and resulting blast injuries, and exposure to decomposing bodies (Tanielian & Jaycox, 2008; Hoge et al., 2004). Additionally, those servicemembers who do not deploy face stress as a result of increased workload and responsibilities (Hosek et al., 2006).

Although deployment is highly stressful and taxing, many servicemembers find that deployments have beneficial qualities as well (Hosek et al., 2006). They report that the work they do while deployed is often challenging and fulfilling and leaves them with a sense of accomplishment. Camaraderie and unit cohesion are developed during the deployment and servicemembers report that their unit often becomes like a family. Additionally, there are financial incentives to deploy, such as Family Separation pay, Hostile Fire pay, and tax exemptions; some servicemembers have suggested that the financial gain helps to offset many of the negative aspects of the deployment (Hosek et al, 2006). It is useful to consider whether these benefits for servicemembers confer a positive impact on children and the home caregiver.

The relative influence of the stressors and benefits of deployment has several potential consequences for servicemembers as well as their families. Attitudes and experiences related to deployment may impact servicemembers' decisions to remain in the military. Those with positive experiences may be more likely to stay in the service while those who feel physically and emotionally taxed by the service may be more likely to resign (Hosek et al., 2006). Some servicemembers return home from deployment with physical injuries; others return with debilitating psychological or cognitive injuries, such as post-traumatic stress disorder (PTSD), depression, and traumatic brain injury (Tanielian & Jaycox., 2008; Milliken et al., 2007; Hoge et al., 2004). Karney and colleagues reviewed the consequences of these "invisible" injuries and found that they are often associated with comorbid disorders (such as chronic pain, cardiovascular disease, and substance use disorders), increased risk of mortality, and difficulties in maintaining relationship with spouse and children (Karney et al., 2007). Despite these potential consequences for families, we have few studies to date that specifically link the experiences of servicemembers and health and well-being outcomes for their children.

Military families experience emotional changes during the course of deployment.

Notwithstanding the lack of empirical evidence on the impact of deployment on children from military families, researchers have begun to construct a framework for considering the emotional toll of the deployment stages. The Emotional Cycle of Deployment for Families framework was developed as a model for understanding the phases and transitions that military families undergo as part of the deployment process in order to better determine the most effective intervention strategies (Pincus et al., 2007). This model has not been tested, but is rooted in the professional and personal experiences of military psychiatrists. Recent interviews and focus groups have found that participants' descriptions of stages before and during deployment are similar to those described in the Emotional Cycle of Deployment, but that the reunion process may be more complex (MacDermid, 2006).

The cycle is divided into five stages that correspond to the military deployment cycle: *pre-deployment* (beginning with notification of pending deployment and ending when the servicemember departs), *deployment* (the first month apart), *sustainment* (lasting the second month of deployment and until the servicemember returns), *re-deployment* (the

month prior to returning home), and *post-deployment* (initiated by the servicemember's return). Post deployment includes not only the members return, but resetting and getting ready to go rapidly back into pre-deployment.

According to this model, pre-deployment generally brings heightened anticipation of loss, as well as denial that the servicemember is actually leaving. The servicemember will often train for long hours while simultaneously trying to get the family's affairs in order. The resulting stress may stimulate an increase in arguments between the servicemember and spouse. Children also may feel the effects of the stress and may act out, have tantrums, and demonstrate regressive behaviors. Servicemembers often view the pre-deployment phase as an extension of deployment due to the high levels of stress felt by themselves as well as their family members (Hosek et al., 2006).

After the servicemember leaves (deployment), the family experiences mixed emotions of anger, relief, disorientation, feeling overwhelmed, grief, sadness, and loneliness. During this phase, family members may also have difficulty sleeping.

Sustainment is the phase during which the family adjusts to the servicemember's absence and develops new routines and ways of living. The family may begin to feel more in control of the situation and less overwhelmed. However, communication with the servicemember may be difficult as a result of the unreliability and other limitations of email and long-distance forms of communication. During this time, children may react based on their stage of development. For example, infants may refuse to eat or become enervated (i.e., losing energy). Toddlers tend to mimic their adult caregivers' reactions to the deployment, and may cry, throw tantrums, and exhibit irritability and sadness. Preschoolers may display regressive behavior, irritation, sadness, and aggressiveness and may have somatic complaints. School-age children may also complain of body aches, whine, and display aggression. Teenagers are likely to isolate themselves, display irritation, rebel, fight, and may engage more frequently in risky behaviors.

During the month prior to the servicemembers return (re-deployment), the family is anxious in anticipation of the homecoming and may experience conflicting emotions (excitement and apprehension) in preparation for the return of the family member.

When the servicemember returns (post-deployment) and begins to reintegrate, there may be stress as a result of the necessary adjustments and changes in routines (Hosek et al., 2006). MacDermid conducted focus groups among reservists and found that less than half of participants reported a honeymoon period (time of heightened joy and well-being occurring at the time of return followed by a decline in well-being shortly after) (2006). Infants may be unfamiliar with the returned parent and may cry when held. Toddlers may also be hesitant to be affectionate with the returned parent. Preschoolers may feel scared or angry. School-age children may crave attention from the returned parents while teenagers may isolate themselves.

While this framework provides a useful tool for understanding what may change for families as they progress along the deployment cycle, we have little research to validate this model. Further, we do not know if families' emotional experiences across this cycle differ by gender of child, demographic background of the family (e.g., service branch or component), or the length or number of deployments.

Characteristics of deployment may influence the impact on families; the unique characteristics of OIF/OEF deployments may bring new experiences for families.

Most research on the impact of deployment has focused on spouses and children of servicemembers deployed during Operation Desert Storm or earlier conflicts (Cozza et al., 2006). Deployments to Iraq and Afghanistan have much different characteristics than previous deployments of the U.S. military. The operational tempo of the current conflicts is unparalleled for the U.S. military's all-volunteer force (Belasco, 2007; Bruner, 2006). Deployments are longer, redeployments occur often, and breaks between deployments are short and infrequent (Hosek et al., 2006). Thus studies of the impact of deployment on military families in the context of other deployments may have limited relevance for the families of servicemembers deploying with OIF/OEF.

Rohall and colleagues compared two groups of U.S. Army enlisted soldiers stationed in Suwon, Osan, and Kunson air bases in Korea, one designated as a "high operational tempo" group (deployed for 19 months at time of survey and three times since the end of the Persian Gulf War – these soldiers were also given less warning before the separation) and another as a "low operational tempo" group (deployed for 7 months at time of survey and twice since the end of the Persian Gulf War). They found that those soldiers in the low operational tempo group reported better family adjustment (e.g., an ability to manage home routines) than those in the high operational tempo group, suggesting that length of deployment impacts a family's ability to adjust to the separation. They also found that those soldiers with higher ranks were better able to adjust, regardless of operational tempo. Additionally, the researchers found that unit morale and leader support were significantly correlated with family adjustment (Rohall et al., 1999).

To our knowledge, there are no studies examining the impact of the present long and frequent deployments to Iraq and Afghanistan on servicemembers' families. In general, many of these deployments are high operational tempo, suggesting a potentially greater negative impact on families. However, to date there are no studies on whether this is consistent with the experiences of families today, and whether and how the deployment impact differs by service branch or component.

Impact of Deployment on Spouses

Early studies of servicemembers and spouses indicate that deployment has an impact on the marital relationship and the spouse's well-being.

A study of deployed Air Force pilots with marital problems reported that the primary source of marital discord was a problem with communication; the second most common was the separation or deployment (Rauschmann et al., 1989). Hiew surveyed spouses of Canadian military members and found that wives reported a perceived loss of social support during deployment (Hiew, 1992). A recent study of United States Army spouses (prior to 2002) found that separation from family (e.g., deployment) was more predictive of poorer psychological and physical well-being than concerns about servicemember injury or death, frequent relocation, or foreign residence; the authors suggest that separation is the most important criterion for determining how spouses are affected by the military lifestyle (Burrell et al., 2007).

Although the sample sizes were very small, cross-sectional, and not generalizable to the entire U.S. military family population, these early studies indicate a need for additional research on the impact of deployment on spouses.

Studies of spouses of those deployed for Naval and peacekeeping missions indicate that these populations had fewer problems related to separation.

Research on Navy families found that separation (e.g., deployment) has little or no significant effect on spouses' well-being. A study of 65 wives of Navy personnel indicated that family separation had no significant effect on self-esteem, loneliness, perceived health status and reported physical health symptoms, marital adjustment, or stress; however, some separated Navy wives did report that some aspects of the separation (e.g., spousal relations, parenting, finances, affective problems, and health) were more difficult than they had anticipated (Nice, 1981).

A study of married Army personnel deployed overseas on a peacekeeping mission found a decline in marital satisfaction during the predeployment and deployment periods relative to the time period before joining the peacekeeping force and after returning from deployment (post-deployment) The authors noted that marital instability was common among soldiers during deployment, but that this instability was positively associated with marital discord prior to deployment. Among those who remained married, overseas deployments did not affect marital quality (Schumm et al., 2000).

It is possible that the nature of these peacekeeping or non-combat deployments may partly explain the relatively low impact on spouse well-being and marital satisfaction. Research comparing servicemembers across service branches, components, and deployment types (e.g., combat, non-combat, etc.) may help to clarify this issue. Tanielian and Jaycox (2008) found that combat exposure was the best predictor of servicemember distress, and

Navy and Air Force members had lower rates of distress than those from the Army and the Marines. This pattern may be the same for their spouses, but to date, we do not have enough information.

Deployments with Operation Desert Storm and Operation Restore Hope had a more profound impact on marital relationships and spouse well-being, suggesting greater stress during combat deployments.

Most studies of combat-related deployments have found that military deployment is related to spousal problems. Jensen and colleagues found higher levels of depression and stressors among spouses of servicemembers deployed with Operation Desert Storm, even after controlling for pre-existing stress levels (Jensen et al., 1996). Another study of soldiers deployed with Operation Desert Storm indicated that deployment of female soldiers was associated with a statistically significant increase in divorce rates while deployment of male soldiers had no effect on marital dissolution (Angrist and Johnson, 2000). However, Schumm and colleagues found that deployment during Operation Desert Storm was not associated with a significant change in marital satisfaction among active duty servicemembers (Schumm et al., 1996a). Similarly, Schumm and colleagues found that among enlisted soldiers deployed to Somalia for Operation Restore Hope and their civilian wives, stress during the deployment was not a predictor of marital dissatisfaction (Schumm et al., 1996b).

Results from a questionnaire distributed to active duty U.S. Army soldiers and their spouses indicated that deployment associated with the Persian Gulf War had a significant impact on self-reported severe spousal aggression (as measured by the Conflict Tactics scale) and that the likelihood of reporting severe spousal aggression was positively associated with the length of deployment (McCarroll et al., 2000). Approximately 2.5% of Army spouses reported high levels of aggression, which was significantly higher than the civilian rate of 0.05%.

These studies suggest a possible association between combat-related deployments and a negative impact on spouses, however, the results are inconsistent. Additionally, there are several methodological problems with these studies. The majority are cross-sectional, limiting the capability to attribute causality. Not all studies control for predeployment (or pre-military) marital quality and/or spouse well-being. For example, we do not know if deployment exacerbates pre-existing marital issues or causes these problems. In addition, most of the studies focus on issues during deployment and sustainment, and less on post-deployment. Finally, the results are not generalizable across service branches and components, as most focus on active-duty Army servicemembers.

OIF and OEF Deployments impact marriage quality and child outcomes.

A recent RAND report examined marriages of servicemembers and found little evidence to support the stress hypothesis (i.e., stressors related to deployment contribute to the dissolution of military marriages); however, the authors suggest that deployment may impact other aspects of marriage, such as quality (e.g., the level of satisfaction with the marriage) and child outcomes (Karney, 2007). The authors also suggest that the military recruits from populations that may have a higher risk of marital dissolution and have policies in place that encourage military members to marry (e.g., health care benefits). Thus, the military may incentivize marriages that individuals would not have otherwise entered. This research is based on the early years of OIF/OEF. We do not know how the stress of multiple and extended deployments five years into the war is having an impact on marriage and family life.

Impact of Deployment on Children

In the next sections, we provide more detail on the impact of deployment on child behavior, academic performance, and issues of maltreatment. We review studies of children whose parents deployed before OIF/OEF and highlight those that focus on family members of those who have deployed with OIF or OEF.

There are conflicting findings in the literature pertaining to the well-being of children and adolescents from military families in general, and findings about the impact of deployment should be interpreted in this context. One researcher found that the incidence of behavioral disorders was higher in a sample of children and adolescents seen at a military health care clinic relative to children and adolescents seen at a health care clinic for civilians, suggesting that the military lifestyle contributes to a "military family syndrome" (Lagrone, 1978). More recent research has challenged these claims and has indicated that children in military families have similar, if not better, mental health outcomes than their civilian counterparts (Jensen et al., 1991, 1995). For example, Jensen and colleagues administered the Diagnostic Interview Schedule for Children (DISC) to military children and adolescents and their parents and found that levels of psychopathology were similar to those of comparable civilian populations (Jensen et al, 1995). However, even if average military children are similar to civilian children, we know very little about the impact of deployment on children, or whether the impact of this stress is similar to what is observed in civilian children exposed to stress. Further, we have no information on the general health and well-being of these children from contemporary military families.

Deployment may have a negative influence on child and adolescent behavior and mental health outcomes.

Early research efforts suggested an association between military parent separation and children's behavior. Hillenbrand found that earlier parental absence was associated with

higher levels of aggressiveness and irritability among boys in the sixth grade (Hillenbrand, 1976). Yeatman administered a questionnaire to parents of children in a pediatric clinic to assess the impact of father absence (during deployment on an unaccompanied tour) on externalizing behavior and found that 34% of parents who reported problems with a child stated that the child exhibited disciplinary problems; 38.1% of a sub-sample of families reported readjustment problems upon the father's return (Yeatman, 1981).

Several studies of children of deployed parents have indicated that deployment is associated with higher levels of internalizing behaviors (e.g., feeling sad, fearful, or over-controlled). A retrospective study of children of Navy fathers in a private psychiatric hospital indicated that paternal absence lasting for at least one month was associated with greater depression and anxiety among children (Levai et al., 1995). Jensen and colleagues studied children of U.S. Army officers and senior enlisted personnel and found that children with absent fathers had significantly higher levels of depressive symptoms and anxiety than those children whose fathers were present; length of absence but not total number of absences was correlated with child reported symptoms of depression and anxiety (Jensen et al, 1989). Jensen and colleagues also examined internalizing behaviors (e.g., sadness) of children whose parents deployed during Operation Desert Storm and found that those with parents who deployed had higher levels of depression and anxiety than those whose parents were not deployed and that boys were more likely to exhibit symptoms than girls (Jensen et al, 1996).

Parents who were the primary caregivers during deployment reported via questionnaire that those children whose parent deployed with the Army during Operation Desert Storm had higher levels of internalizing behavior relative to those children whose parent was not deployed; however, only 6% of the study sample had symptoms that warranted mental health treatment (Rosen et al., 1993). Similarly, Kelly and colleagues surveyed mothers in the Navy and found higher (but not problematic) levels of internalizing behavior among children of deployed Navy mothers relative to children of non-deployed Navy mothers (Kelly et al., 2001). Children with mothers serving in the Air Force were more likely to exhibit symptoms of anxiety and depression when the mothers had difficulty providing childcare, when the mothers were deployed to a war zone, and when there were higher degrees of change in the children's lives (Pierce et al., 1998).

<u>Parental responses to deployment may have an impact on children's behavior; parental attitudes may also introduce a reporting bias.</u>

While these studies are indicative of a relationship between deployment and child behavior, they do not represent of all military children or the current deployment cycle. Additionally, methodological issues and biases may be present in several of these studies. For example, Rosen and colleagues found that children's symptoms were correlated with parent's symptoms, indicating a possible reporting bias, such that parents who were more distressed themselves were more likely to report problems with their child on the survey (Rosen et al., 1993). Similarly, Kelly and colleagues noted that childcare providers (but not parents) reported higher levels of externalizing behaviors (e.g., aggressiveness,

noncompliance) among children of deployed Navy mothers (Kelly et al., 2001). Other studies suggest that parental and children outcomes may be correlated. Medway and colleagues distributed a survey to reserve and National Guard spouses attending a military support group meeting and military members deployed during Operation Desert Storm. They found children's behavior was primarily determined by the mother's distress and family disruption (Medway et al., 1995). A follow-up mailed survey to a different group of participants found that distress related to family disruption was related to the child's behavior at time of reunion as well (Medway et al., 1995). Future research efforts in this area should account for this potential bias and attempt to capture impartial accounts of child and adolescent behaviors and attitudes. Further, we do not have enough information if parental views on child behavior differ by gender of the child or their own military experience (including rank, service branch, or component).

The differential impact of maternal versus paternal separation has been explored, but further study is needed.

One group of researchers examined the effects of maternal versus paternal separation. A study of 110 military children found that the effects of mother absence on a child's psychological functioning (as measured by the Psychological Functioning Inventory) did not significantly differ from the effects of father absence. However, when examined as individual criteria, certain aspects of psychological functioning (peer relationships, handling learning demands, and expressing feelings) and physical health indicators were more problematic for children separated from their mothers than for those separated from their fathers (Applewhite et al., 1996). A more extensive and representative research sample and a more comprehensive set of outcomes is needed to further our understanding of the differences between maternal and paternal deployment and the impact on children's well-being. Given the current context of dual deployments and the increase in maternal deployments during OIF/OEF, we need to understand if children are experiencing more difficulties in order to inform our interventions for this population.

Small number of studies have focused on the mental health and well-being of children of servicemembers deployed with OIF/OEF.

One group of researchers conducted focus groups in order to understand the adaptations made by adolescents during their parents' deployment in OIF/OEF (Huebner, 2005). They reported changes in the relationship with the deployed parent, concern and anxiety about the deployed parent's well-being, increases in responsibility and demonstrations of maturity in caring for younger siblings and completing household chores, bonding with younger siblings, changes in daily routine due to transportation or financial reasons, and worse performance in school. Focus group participants also indicated feelings consistent with the symptoms of depression, hiding their feelings, lashing out in anger, disrespecting parents and teachers, and worrying about the deployed parent. The intensity of these behaviors ranged from slight to severe (some of which required counseling or therapy).

Barnes and colleagues found that adolescent dependents of military members that had been deployed to Iraq during OIF in 2003 had significantly higher levels of perceived stress, systolic blood pressure, and heart rate than the civilian control group (Barnes et al., 2007). The authors suggest that this youth population should be closely monitored during wartime and that stress-reducing interventions for this population should be evaluated.

Flake et al. assessed the psychosocial profiles of children aged 5-12 years during parental deployment and found that 32% had Pediatric Symptom Checklist scores in the "high risk" category for psychosocial morbidity, which is about 2.5 times that of the national norm (Flake et al., 2008). The researchers also found that caregivers reported that children had problems sleeping 56% of the time, and problems related to school (dropping grades, lack of interest, etc.) 14% of the time. Additionally, parents experienced high levels of stress as reported on the Parenting Stress Index (42% of the time) and the Perceived Stress Scale (19% met criteria indicating "at risk" status). Parental stress was the most significant predictor of the child's psychological functioning during wartime deployment. Children whose parents were younger, had been married for a shorter period of time, and had a lower socioeconomic status were at significantly higher risk of a being identified as having psychosocial symptoms by their parents. Flake and colleagues found that college level education, military support, and community support were associated with lower levels of children's psychosocial symptoms and parental stress.

Impact of deployment on children's school performance is unclear; prior studies suggest decreases or negligible impact on academic performance.

Early work from the 1960s and 1970s, which examined the relationship between parental deployment and children's academic performance, yielded highly variable results. One study found that a father's absence had a measurable effect upon scholastic aptitude, which was based on the age of the child during the absence. The study suggested that early and long separations result in greater verbal abilities while late and brief separations may produce elevation in math ability (relative to verbal) (Carlsmith, 1964). Hillenbrand examined classroom performance measures among children of deployed parents and found that older male children (but not male children with older siblings) had increased mathematical and analytical abilities; father absence was associated with decreased quantitative abilities among female children (Hillenbrand, 1976).

More recent studies have similarly inconsistent results but more often indicate a negative impact of deployment on academic performance or little impact at all. A study of children of fathers deployed for eight months or longer found that father absence was negatively related to academic performance measures as measured by the Classroom Adjustment Rating Scale (Hiew, 1992). Pisano and colleagues found that daughters of deployed servicemembers demonstrated a significant decrease in reading comprehension scores during Operation Desert Storm deployment; however, all other achievement test scores were not statistically different between children of deployed and non-deployed parents (Pisano et al., 1992).

Academic problems appear to be related to other difficulties in children's lives. For example, Rosen and colleagues found that among children with fathers deployed with Operation Desert Storm, those with academic problems were more likely to display immature behavior and have discipline problems at home, eating and sleeping problems, and a perceived need for counseling (Rosen et al., 1993).

Given these mixed findings, further inquiry is needed into factors that contribute to poor academic performance during deployment and also into other changes in academic behavior not captured by test scores. For example, we do not have data on changes in classroom behavior, homework and task completion, and attendance during the deployment.

Studies on the impact of deployments to Iraq and Afghanistan on children's academic performance indicate modest negative effects.

We identified only two studies on this subject to date. Engel and colleagues found that deployments to Iraq or Afghanistan have modest effects (measured as decreases in test scores) across most academic subjects and that these effects may be long-term (Engel et al., 2006). The largest adverse effects were found among younger children, boys, minorities, children whose parents are married, children whose parents have lower Armed Forces Qualification Test scores, and children whose parents have lower education. Lyle found that parental absences were associated with lower test scores (Lyle, 2006). This effect was greatest among those with single parents, children with mothers in the army, children whose parents had lower abilities (as indicated by Armed Forces Qualification Test scores), and younger children.

Future work in this area should examine children of parents in all service branches and components. Longitudinal analysis would provide more information about the long-term impact of parental deployment on educational outcomes, particularly since children often experience significant school transitions during deployments.

Studies of the prevalence of child maltreatment during OIF/OEF indicate that deployment may be associated with increases in abuse.

Deployment-related stress may manifest as child maltreatment (e.g., physical, sexual, emotional, or other abuse and neglect). Rentz and colleagues conducted a time-series analysis of Texas child maltreatment data in order to assess the rates of child maltreatment among military and non-military populations before and during the military options in the Middle East (Rentz et al., 2006). They found that the rate of child maltreatment was relatively stable between 2000 and 2003 among non-military families; however, the rate of maltreatment among military families increased at the end of 2002 and increased dramatically during the beginning of 2003, coinciding with intense combat operations in the Middle East. Another study utilized the Army Central Registry database (which contains records of child maltreatment incidents) and found that maltreatment of children

occurred more frequently at home while soldiers were engaged in combat-related deployments (Gibbs et al., 2007).

These studies highlight more extreme examples of consequences of deployment-related stress and the need for interventions. Future research efforts should examine ways to mitigate this stress and evaluate programs targeting these populations and providing assistance to families and children.

Taken together, this research suggests that deployment has a potentially significant impact on children and home caregivers.

Research conducted prior to OIF and OEF indicates that families experience difficulties as a result of deployment. Specifically, parental deployment can negatively affect child health and well-being, including increases in psychosocial morbidities, difficulties in school adjustment, and lower test scores. Further, the process of deployment (from pre-deployment through sustainment) may result in poorer caregiver mental health and marital quality. However, many of these results are inconclusive given challenges of sample representation, study design, and/or a limited account of potentially confounding variables (e.g., prior family relationships, existing child behavioral issues).

Further research is needed on OIF and OEF impact on children with attention to the experience for active component and reserve component families.

This literature review indicates that while important research on the experience of deployment for military families has been conducted, many questions remain unanswered about the impact of OIF and OEF on children and families. For example, most of the research has been conducted during prior conflicts, thus we know very little about how children are faring during OIF and OEF specifically. In addition, we have little information on whether child and caregiver functioning varies by deployment status (e.g., how does functioning change during deployment and sustainment versus post-deployment phases), and whether children of active vs. reserve personnel have different experiences with deployment. Given that more reserve component personnel have been deployed during OIF and OEF than prior conflicts (MCEC, 2007), more examination is needed on how their families are functioning. It is hypothesized that reserve families may be struggling more with deployment during OIF and OEF because they are "suddenly military" and disconnected from social support networks who have familiarity with the unique experience. The pilot study described in the rest of this report provides new information about the health and well-being of these children and families, offers insight which will shape future studies, and informs strategies to better serve these youth.

Chapter 3. Results of the Pilot Study at Operation Purple Camp

In addition to the literature review summarized in Chapter 2, we conducted a pilot study of the impact of deployment on military families. The pilot study had three objectives: (1) assess the well-being and functioning of the children of deployed servicemembers and the primary home caregiver; (2) assess the experience of deployment for these children and home caregivers; (3) and assess the children's experience at Operation Purple Camp, a summer camp and support program for the children of deployed servicemembers. This chapter first provides some background on Operation Purple Camp and then presents the results of the pilot study.

Origins of Operation Purple Camp

Historically, the United States military has not been especially accommodating to families (Rostker, 2006). The Army Community Services Organization (established in 1965) was the United States Army's first attempt at providing comprehensive support for family members of soldiers. Since that time, several policies and programs have been developed to support the slogan that "the Army takes care of its own" (Rostker, 2006). However, a recent survey of active duty families revealed the perception that there are insufficient supports for children during deployment (MacDermid, 2006).

Given the frequent and long deployments to Iraq and Afghanistan currently taking place, the resulting increased needs of military families, and a tight Defense budget, several self-help and family advocacy groups have been critical. These include the National Military Family Association (an organization dedicated to military family advocacy) and Military OneSource (a free consultation service that provides a wide range of support services via telephone or internet to all servicemembers and their families). Additionally, each service branch has unit volunteer networks (the Army Family Readiness Groups, Marine Corps Key Volunteer Network, Air Force Key Spouse Program, Coast Guard and Navy Ombudsman Programs) that provide information and support to spouses and family members throughout the deployment cycle.

The Emotional Cycle of Deployment for Families described earlier (Pincus, 2007) contains suggestions for remedying the negative consequences associated with each stage of deployment (see Table 1). However, please note that these intervention strategies have not been empirically tested.

Table 1. Remedies for Negative Consequences by Stage of Deployment

Stage of Deployment	*Suggested Remedy*
Pre-Deployment	Discuss responsibilities and expectations of each family member during the upcoming deployment. Make plans and goals for family rather than "put lives on hold." Decreases likelihood of misperception and distortion.
Deployment	Initiate plans made during pre-deployment. Continue family traditions and develop new ones. Facilitate children's understanding of the finite nature of the deployment by developing timelines (as age-appropriate).
Sustainment	Establish support system (extended family, friends, religious group, family support groups, etc.). Communicate with deployed servicemember via e-mail, phone, letters. Avoid overspending. Spend some time without the children.
Re-Deployment	Maintain routines. Make plans for homecoming but develop alternate plans in the case of changes in return time. Maintain realistic expectations of homecoming, try to dispel high expectations.
Post-Deployment	Take time to communicate and get to know each other. Spend time talking to each other. Take time to make decisions and changes in routines. Lower expectations. Keep plans simple and flexible. Don't try to schedule too many things during first few weeks.

Adapted from Pincus et al., 2007

The development of programs for military children is a step in the right direction; however, the effectiveness of these programs should be examined in order to maximize the benefit of the interventions.

Several programs for children have also been developed in light of the current conflicts and subsequent stressors on the military family.

The Department of Defense and the Army have created several programs to provide information and/or assistance to military families and children. Military OneSource contains a plethora of information about parenting, child health and development, and children's mental health and well-being. Information about homework and tutoring, as well as school selection and transitions, readiness, and parent-school involvement is available for parents. Children and Youth Services, or CYS, offers information for children about deployment-related stress. Military Student provides tips and information about transferring schools. The Department of Defense's MilitaryHOMEFRONT website contains a link to the Military Youth Coping with Military Deployment program, a half-hour video that contains stories of children whose parents deployed and discusses tips for coping with the difficulties associated with deployment (http://www.militaryhomefront.dod.mil/). The Guard Family Program has a website that connects military students to their school administrators, teachers, and coaches. The Army has created two programs that reach out to children of Army parents: Army Families Online, which provides links to resources for

children of military parents, and Operation Military Kids, which provides links to state-specific resources for military children.

Several non-profit organizations have been initiated in order to provide support to children and families of servicemembers. Our Military Kids is a non-profit organization operating out of Virginia (http://www.ourmilitarykids.org). Its mission is to provide financial support to children whose parents are deployed so that they may enroll in competitive sports, fine arts classes, tutoring sessions, and various other "approved" activities. The Military Child Education Coalition has developed several programs (Student2student, Special Education Leaders Institute, Living in the New Normal, and School Quest) targeted at improving academic outcomes for military children. Military Youth Centers, sponsored by the Boys and Girls Club, offers educational outreach program and after school programs for military children.

Few studies have assessed whether any of these programs and/or interventions for family members are mitigating the potentially negative consequences of deployment.

Research focusing on military families during previous conflicts indicates the importance of social support networks and programs for coping with deployment stress. For example, Wood et al. found that social support networks of family and friends were essential to the adjustment of families with U.S. Army soldiers who were deployed to Sinai for six months (Wood et al., 1995). They also found that participation in family support groups was an important factor among those families who successfully adjusted to the deployment. Hiew found that Canadian children of deployed fathers were less likely to exhibit "acting out" behavior in the classroom when they had used social support coping rather than problem-focused coping or emotion-focused coping (Hiew, 1992). These findings may inform development of interventions for children with deployed parents.

Patterson and McCubbin found that wives of Navy aviators assigned to an eight month deployment on a U.S. Navy carrier who experienced the least amount of distress during the deployment coped by maintaining acceptance of the lifestyle, optimism, and development of self-reliance and self-esteem (Patterson and McCubbin, 1984). Rauschmann learned that poor communication was the primary source of marital conflict, suggesting that efforts to facilitate and improve communication may be important interventions during deployment (Rauschmann et al., 1989).

While these studies highlight the need for social support programs and interventions for military families, there is a lack of research endeavoring to identify the most beneficial programs and interventions for this population. Further, there has been relatively little attention regarding the benefits of youth programs, particularly given the more recent emphasis on providing more services for the military child.

Operation Purple Camp Overview

In 2004, the NMFA began to address this need for support programs for children. NMFA launched Operation Purple Camp (OPC), a free summer camp program for children with a deployed parent. During their stay, children engage in a variety of fun activities while learning how to cope with the stress associated with the deployment of their parents. The goal of these free summer camps is to bring together youth who are experiencing some stage of a deployment and the stress that goes along with it. Operation Purple Camp gives children the coping skills and support networks of peers to better handle life's ups and downs. Key activities include team building, community service projects, and military themed exercises.

In 2007 (the time of this study), there were more than 40 weeks of camps held at 34 locations in 26 states. Generally, existing camps submit proposals to NMFA to be considered as an Operation Purple Camp site. NMFA provides information on the camp in several ways, including via their membership networks, presentations with military family support groups and communication with military installation command staff. During the 2007 camp year, priority was given to those children who had a parent/guardian or other household member (residing in the same house) deployed between May 2006 and September 2008. Typically, children attend camps that are in their own state, but some travel far from home.

Child and Caregiver Functioning and Well-Being

The first aim of this pilot study was to describe the functioning of our sample of children and their caregivers. In the next sections, we describe our methods and sample characteristics and summarize our findings about the psychological and social well-being of children from the perspectives of children and their caregivers. We report any notable differences by child age, child gender, race/ethnicity, service component, and deployment status.

In our study, we assessed children at three time points-baseline (before camp started), at the end of camp, and 3 months after camp concluded. We also surveyed caregivers at baseline and at 3 months following the end of camp. In August 2007, we conducted the baseline, self-administered written surveys with children attending five separate camps in five states as well as one of caregiver for each child (generally the home caregiver). Caregivers were notified by email by NMFA (n=218 families planning to attend one of the five camps) about the study prior to attendance at camp and enrolled on the first day of camp if they wanted to participate. Parental consent and youth assent were obtained for child participation in the study. If families had more than one child attending camp, one child was randomly selected from each family to complete the survey (based on alphabet), and one caregiver (generally the home caregiver) was asked to participate in the study. The eligible age range for the selected camps was 7-17 years.

The baseline survey was administered on-site before the start of camp activities (first day of camp). A total of 192 families (192 children, 192 caregivers) participated in the baseline part of the study (99% response rate among those who arrived at camp, 2 caregivers did not want to participate, and 24 families did not show up at camp). In addition, we administered a short, end-of-camp survey (end of the week of camp) assessing youth satisfaction with the camp (n=184, 96% of campers who completed the baseline survey). In late November 2007 (3 months after the baseline assessment), we mailed follow-up surveys to these children and their caregivers. To attempt to receive follow-up surveys from all participating families, reminder notes were sent three times via email in November and early December 2007. We received surveys from 72% of families (n=139), however we received complete sets of surveys (baseline and follow up from both child and caregiver) from 57% of families (n=110). This sample was used for any follow-up analyses described in this report, particularly with respect to the impact of deployment status over the course of the study. In summary, we used the following samples for our analysis in this report:

- Baseline sample= 192 (for analyses on child and caregiver functioning, deployment experiences by component)
- Follow-up sample=110 (for analyses comparing experiences by deployment status only)

Survey Content

Child Surveys

The baseline child surveys included items assessing child demographics (e.g., age, gender), prior experience with camp, current behavior and functioning (via the Strengths and Difficulties Questionnaire), experience of anxiety (SCARED), use of coping strategies (modified version of the Children's Coping Strategies Checklist), life events, communication with the deployed parent, views on the impact of deployment, and reasons for attending OPC. The 3-month follow-up survey included these items plus two additional, open-ended items querying children about what is difficult about their parent's deployment. The end-of-camp satisfaction survey obtained information on the camp experience, what worked well, and what could be improved.

Caregiver Surveys

The baseline caregiver surveys included items assessing parent demographics (e.g., age, gender, relationship to deployed/military personnel), deployment status and number of deployments, perspectives on child behavior (Strengths and Difficulties Questionnaire, peer and family functioning), communication with the deployed parent, personal physical and mental health (SF-12), their views on the impact of deployment on their own life as well as their child's well-being, and their reasons for wanting their child to attend OPC. The 3-month caregiver follow-up survey included these items plus included two additional, open-ended items about what is difficult about the deployment for their own lives when the parent is away and when he/she returns.

Measures

Table 2 lists the key measures used in these surveys. We used many established measures that could be benchmarked against other populations of youth and adults. In addition, we created new questions related to the impact of deployment and OPC (further described in the respective chapters). Please note that the SDQ is administered to both caregivers and children, however the child report is only valid for youth ages 11-17. Given that our sample comprised children ages 7-14 years, we relied on caregiver report of child behavior only for the SDQ to maximize the available analytic sample (see Chapter 3-results). The peer and family functioning items are also based on caregiver report. All other child functioning measures (SCARED for anxiety, coping, life experiences) are based on child report.

Table 2. Survey Measures

Measure	Description
Strengths and Difficulties Questionnaire (SDQ)	The Strengths and Difficulties Questionnaire (SDQ) is a brief behavioral screening questionnaire that asks about 25 attributes, some positive and others negative. The 25 items are divided between 5 scales of 5 items each, generalizing scores for conduct problems, hyperactivity, emotional symptoms, peer problems, and prosocial behavior; all but the last scale are summed to generate a total difficulties score. (www.sdqinfo.com)
SCARED	The SCARED is a measure of anxiety. It includes 5 items. (Birmaher, 1999)
Everyday Stress Index	The ESI contains 20 items in five problem areas: role overload, financial concerns, parenting worries, employment problems, and interpersonal conflict (Hall, 1985).
Peer Functioning	This is a set of three items to assess child ability to interact with other youth (getting along with other kids, other kids not wanting to be his or her friend, getting teased by other kids) (Peds QL-Varni, 2006).
Family Functioning	This is a set of three items to assess child ability to get along in the family (keeping up with responsibilities at home, getting along with family members, talking about feelings or personal problems with a parent) (Peds QL- Varni, 2006).
Coping (Children's Coping Strategies Checklist)	We used a modified version of the CCSC, which is a self report inventory in which children describe their coping efforts. We used three subscales (avoidant coping, positive cognitive restructuring, and problem focused coping) (Ayers, 1996).
Physical and Mental Health (SF-12)	The SF-12 is a short form of the SF-36, which assesses physical and mental health-related quality of life. (Ware, 1996).

Data Analysis

We conducted descriptive and bivariate analyses in SAS version 9.1 to describe child and caregiver functioning at baseline, reasons for attendance at OPC, and experiences

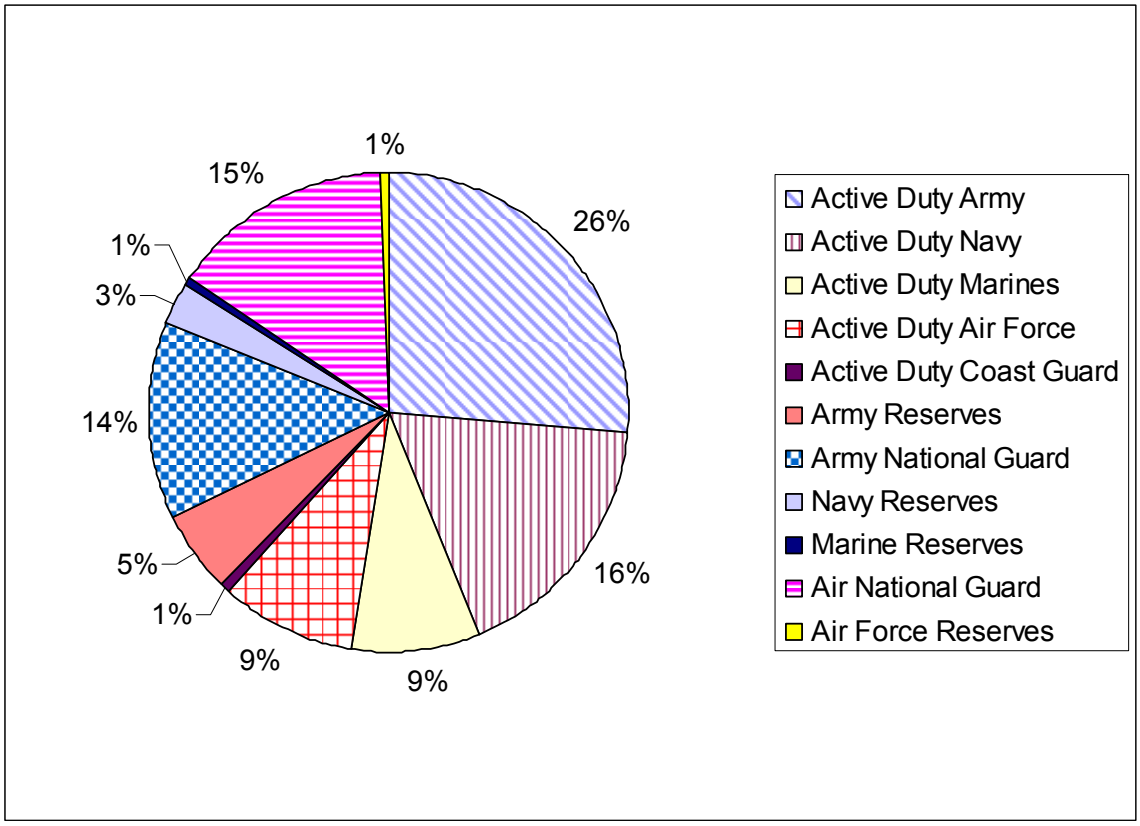
with OPC. In addition, we used the sample of complete baseline and follow-up child and caregiver survey sets to examine whether deployment status over time had a differential impact on child and caregiver well-being. We also assessed whether functioning and well-being differed by child age, child gender, service component (active component vs. reserve component), deployment status, and number of deployments. In order to maximize the number of responses that we could report in this pilot study and unless otherwise stated, most of the data presented here reflect analyses of the baseline data. We assessed the impact of deployment status over the course of the study using the follow-up survey data where appropriate. We used chi-square statistics to test for categorical differences and t-tests for differences in continuous measures. Please note that we conducted a number of analytic tests given that this is an exploratory study. Given the nature of multiple comparison testing, some findings may be significant by chance and should be interpreted with caution. In addition, we conducted significance testing only on questions that provided close-ended options. For open-ended items ("write-ins"), we often categorized and enumerated the frequency of responses but do not report p-values.

Child and Caregiver Characteristics

Demographics

Nearly 39% of the sample was in the reserve component (Guard or reserves affiliated). The Army was the most heavily represented service. In fact, 45.1% of deployed parents were active component Army, Army Reserve, and Army National Guard, followed by active component Navy or Navy reserves (19%) (Figure 1).

Figure 1. Service Component and Branch of Military Families (n=192)



The average age of the children participating was 10.4 years at baseline (range 7-14 years). The sample was fairly evenly split between boys (51.4%) and girls (48.6%). Most of the children who participated in the survey were white, non Hispanic (83%). The majority of children attending OPC had attended a summer or day camp prior to OPC.

The majority of caregivers participating in the study were mothers of the children attending Operation Purple Camp (81%), and 71% of the respondents were the spouse of military personnel. The average age of caregivers was 37.9 (standard deviation=6.5). More than half of the caregivers (63%) were employed at least part time. There were some key demographic differences by service branch. Namely, more of the youth from Army families were male, while a greater percentage of children from families of the other service branches were female (see Appendix A for demographic information about the baseline sample, stratified by service branch).

Given that every baseline family did not fully participate in the follow-up surveys, we examined whether our follow-up sample was significantly different from the baseline sample by comparing the demographic characteristics of families who did respond to the follow-up with those that did not respond. Fewer Hispanic families responded on the follow-up survey as compared to the baseline survey (11.5% vs. 2.8%, $p<.05$). It is

unclear if language was a factor in this response, as surveys were only administered in English. In addition, the follow-up sample had fewer families who were experiencing deployment during the study (75% at baseline vs. 49% of retained follow-up sample). Other than these key differences, the sample demographics for our follow-up survey sample were not significantly different ($p>.05$).

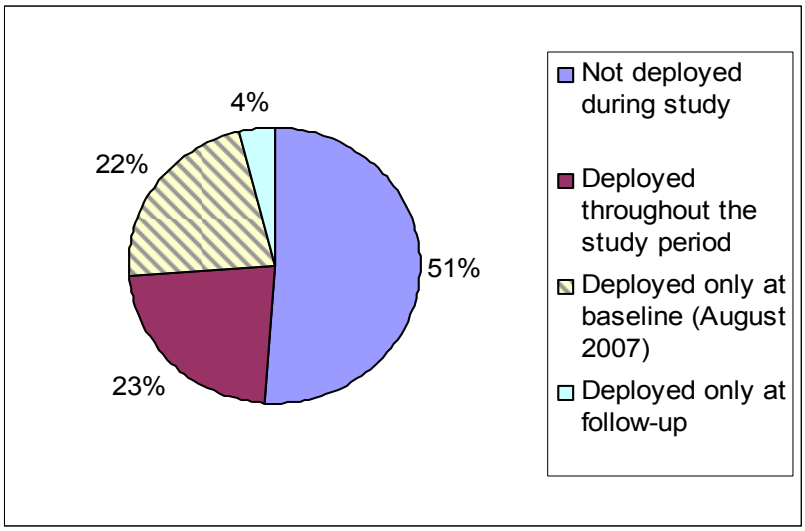
Deployment Status

We also summarized the deployment status of the respondent families. For this study, we developed four categories: families in which a parent was only deployed at the baseline time point (August 2007), families in which a parent was deployed only at the follow-up time point (November 2007), families in which the parent was not deployed during the study, and families in which the parent was deployed at both baseline and follow-up time points. We used these categories in subsequent analyses of the impact of deployment status.

At baseline, nearly three-quarters of the families had a parent who was recently deployed and just returned or a parent who was currently deployed, and 15% were preparing for deployment. The average number of deployments for OIF/OEF was 2.8 (standard deviation=1.6), and most families had experienced at least one deployment since 2002 (92%). A sizeable group of families had experienced three or more deployments (55%). On average, active component personnel were deployed significantly more times (3.4) than reserve personnel (1.9) ($p<.01$).

Among families experiencing a deployment at the time of the baseline survey, nearly half of the servicemembers had been gone over six months (48%). Of those families who completed the baseline and follow-up surveys (our final sample for deployment status analyses), 23% had parents who were deployed over the entire course of data collection for the study (August-November 2007). Twenty-two percent were deployed only at baseline; 4% only at follow-up, and 51% were not deployed at either time point (Figure 2). This 51% includes families in which the parent was deployed prior to the study time period and had returned, or were never deployed.

Figure 2. Parent Deployment Status Throughout Study (n=110)



Child Functioning and Well-Being

In the next sections, we summarize the functioning and well-being of children in our sample. As explained earlier (see Measures section in Chapter 2), we relied on caregiver report for emotional and behavioral difficulties (using the Strengths and Difficulties Questionnaire) and peer and family functioning, but used child report of anxiety, coping strategies, and experience of life events. Please recall that deployment status analyses are based on the follow-up sample, yet all other analyses by age, gender, race/ethnicity and service component use the baseline sample.

Children attending Operation Purple Camp were functioning well, though emotional difficulties were potentially greater than the general population of children.

We examined youth emotional well-being by assessing their experiences of anxiety as well as caregiver reports on child strengths and difficulties with behavior. It is useful to examine the conduct, hyperactivity and emotional difficulties scores of a U.S. population based sample of caregivers (using the Strengths and Difficulties Questionnaire) (National Health Interview Survey, 2001). Figure 3 compares the average scores. Caregivers in the Operation Purple Camp (OPC) sample reported greater child emotional or behavioral challenges compared with the general population sample. Please note that the sample age ranges are slightly different thus we did not conduct any significance testing (population based sample: 11-14 years, OPC sample: 7-14 years), but the relative differences are worth noting.

Figure 3. Emotional and Behavioral Difficulties-Comparison of OPC Sample with Population Based Sample of Caregiver Report

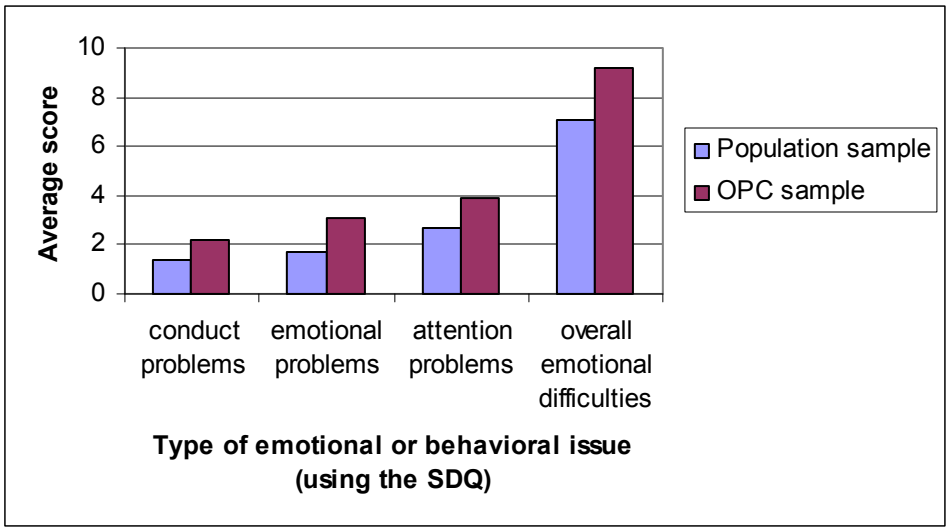


Table 3 summarizes differences in caregiver reports of emotional difficulties by child age, gender, and race/ethnicity. We also queried children specifically about the experience of anxiety. Younger children and girls reported more anxiety. In addition, caregivers of boys reported that their child had more difficulty with attention and overall emotional challenges. This gender difference in anxiety and attention issues is consistent with other studies (Birmaher, 1999; Wren et al., 1991).

Table 3. Child Anxiety and Other Emotional Difficulties by Key Child Demographics (n=192)

Higher values indicate greater symptoms or difficulties

	Age		Gender		Race/Ethnicity	
	7-10 years	11-14 years	Male	Female	White, non Hispanic	Non-white
Anxiety (range=0-10, scores >3=anxiety)	2.8**	1.7	1.8	2.7**	2.2	2.5
Problems with conduct (range=0-7)	1.2	1.5	1.5	1.2	1.2	1.9**
Problems with emotional issues (range=0-10)	2.1	2.4	2.1	2.3	2.3	1.9
Problems with hyperactivity and attention (range=0-10)	3.8	3.6	4.3**	2.9	3.7	3.3
Overall emotional difficulties (range=0-25)	8.8	9.6	9.9	8.4	9.2	9.1

*Significantly different at the p<.05 level; **Significantly different at the p<.01 level

Note: All measures are based on caregiver report (Strengths and Difficulties Questionnaire, SDQ) except for anxiety (SCARED).

We also analyzed caregiver reports of child emotional or behavioral issues and child report of anxiety by service component (Table 4). Overall, children of active component personnel were reported to have greater difficulties with emotional functioning, though none of these differences were statistically significant.

Table 4. Child Anxiety and Emotional Difficulties by Service Component (n=192)
Higher values indicate greater symptoms or difficulties

	Active (n=118)	Reserve (n=74)
Anxiety (range=0-10, scores >3=anxiety)	2.4	1.9
Problems with conduct (range=0-7)	1.4	1.2
Problems with emotional issues (range=0-10)	2.4	1.9
Problems with hyperactivity and attention (range=0-10)	3.8	3.4
Overall emotional difficulties(range=0-25)	9.8	8.2

Note: All measures are based on caregiver report (Strengths and Difficulties Questionnaire, SDQ) except for anxiety (SCARED).

There were no statistically significant differences in these measures by the number of deployments and deployment status throughout the study. However, there are some trends in the differences by deployment status that are worth noting for future analyses. First, there were differences in anxiety symptoms. The average anxiety score reported by children whose parent was deployed throughout the study was 1.8. For children whose parent just deployed at the time of the follow-up survey, the average was 0.3, and for children whose parent was never deployed during the study, the average was 1.6 (higher score equals more symptoms). There were some distinctions in caregiver reports of child emotional difficulties. Among those children whose parents were deployed at both survey time points, the score of emotional difficulties was 9.2, whereas for children whose parents were only recently deployed (around November 2007 follow-up survey), the average score was 7.4 (higher score indicates more difficulties).

Caregivers generally reported strong prosocial skills among their children, although there were differences by component.

We also queried caregivers on their child's peer and social functioning. In general, there were no significant differences, with the exception of caregivers of girls reporting that their child exhibits more prosocial skills (e.g., getting along with others, doing kind things for others)(mean 8.8 vs. 8.2, p<.01; range: 0-10). Prosocial skills (as measured by the SDQ) in the OPC sample were comparable with the U.S. population based sample referenced earlier (OPC=8.4, std dev=1.7 vs. U.S. sample=8.6, std dev=1.8).

We analyzed whether there were differences in prosocial skills as well as peer (e.g., ability to make friends) and family functioning (e.g., interest in participating in family activities) by service component (see Appendix B for additional tables). There was only one distinction in this area. Reserve component caregivers generally reported that their children had more skills in interacting with others (prosocial skills) than active component caregivers (8.9 vs. 8.2, p<.01). There were no major differences by number of

deployments or deployment status, with one exception. Family functioning for children whose parent was deployed during the entire study or had recently returned prior to the November 2007 follow-up survey was 3.4 (range: 0-5) compared with families in which the service member had just deployed at the time of the follow-up survey (4.6).

Youth tended to use positive thinking strategies to cope with their stress, and there were no differences in coping approaches by service component or deployment status.

We also asked youth directly about their use of coping strategies to confront the challenges in their lives. The coping strategies can be organized into three categories: strategies in which you simply avoid the problem (e.g., You tried to ignore it), strategies of positive cognitive restructuring or trying to reframe how you think about the problem (e.g., You told yourself that things would get better), and or problem solving strategies (e.g., You thought about what you needed so you can solve the problem). Overall, youth used more positive thinking or cognitive restructuring (average=9.8, range= 0-18, standard deviation=4.4) than avoidant (average=7.8, range= 0-15, standard deviation=3.3) or problem solving strategies to handle their stress (average=7.8, range= 0-15, standard deviation=3.7).

There were no major differences in coping by child age, gender, or race/ethnicity. Girls and younger children reported somewhat greater use of avoidant coping strategies (e.g., trying to ignore the problem). Children of active component personnel reported slightly more use of avoidant strategies than children of reserve component. There were no differences by number of deployments and deployment status.

Children who experienced more deployments also reported more changes in parental employment and school transitions.

We also asked children specifically to report on their experience of a variety of life events in the last six months. Many youth had experienced transitions such as moving to a new town (37%), moving to a new house (42%), or moving to a new school (41%). There were no major differences in the experience of these life events by age, gender, race/ethnicity or deployment status. A greater percentage of children whose parent had been deployed three times or more reported that their mother or father had lost their job (64% vs. 50% of two, 43% of one, or 16% of no deployment, $p<.01$). In addition, more children whose parents had been deployed at least once had changed schools compared with children whose parents had not been deployed (70% vs. 53%, $p<.01$).

Caregiver Functioning and Well-Being

We also assessed the well-being of caregivers. The following sections describe the physical and mental health of the primary home caregiver for each child surveyed at

OPC. In addition, we summarize the sources of stress in their lives and note any differences by key demographic or deployment status factors.

Operation Purple Camp caregivers reported good physical health, yet their mental health was poorer than the general adult population.

We used the SF-12, a common measure of adult physical and mental health related quality of life (Ware, 1996) to assess the health of our sample of caregivers. Overall, caregivers reported better physical health related quality of life (normed score=53.0, std. deviation=7.9) than mental health related quality of life (normed score=44.9, std. deviation=9.4). Given that the norm is 50, the mental health of the OPC caregivers is somewhat poorer. There were no major differences in health by the age or gender of the child. However, there were differences in mental health by caregiver gender, with female home caregivers reporting worse mental health compared with males (43.7 vs. 47.6, $p<.05$).

There were no major differences by service component and deployment status. Yet, there was an interesting trend with caregivers from active component families reporting better mental health than those from reserve component families (44.6 vs. 41.9). In addition, caregivers reported somewhat better physical health when the service member had been deployed throughout the study or had only recently left than when they had not deployed or had just returned, but findings are only marginally significant ($p<.10$).

Caregivers reported concerns about child behavior and having more responsibilities at home.

We asked caregivers to report on their experience of a variety of life events in the last six months. Fewer caregivers than children reported major life transitions such as moving to a new town or house, although 16% of respondents reported a recent job change. There were no major demographic differences. However, a greater percentage of caregivers from active component families reported learning a new sport or hobby in the last six months (21% vs. 9%, $p<.05$). Caregivers who experienced a recent deployment (i.e., deployed at time of follow-up survey) also indicated a recent move to a new city or town more often than those who had not (25% vs. 8%, $p<.05$).

We also queried caregivers about the sources of stresses in their lives using the Everyday Stress Index (see Appendix C for detailed tables). Most caregivers reported at least some worry about their child's behavior (75%) and their performance in school (55%). In addition, most caregivers indicated that they did not have enough time to do the things they wanted to do (82%) and had too many responsibilities (70%). Several respondents experienced stress from taking care of others' children (33%).

There were notable differences in the experience of these stressors by service component and number of deployments. A greater percentage of caregivers from reserve component

families compared with those from active component families reported at least some stress from having too many responsibilities (77% vs. 67%, p<.05) and from not enough time to do what they wanted (88% vs. 79%, p<.05). Interestingly, caregivers in families that had experienced at least one deployment reported less trouble in their relationship with their children's father than those who had no deployments. In fact, there was a slight linear trend, with reported stress lower on this issue with increasing numbers of deployments (25% bothered to some extent with no deployments, 18% with one, 14% with two, 9% with three or more).

Experience and Impact of Deployment

The second aim of this research was to examine experience with deployment from the perspectives of child and caregiver. In the next sections, we describe how families communicate with the deployed parent as well as the perceived impact of the deployment on children and caregivers. In particular, we summarize differences in the experience by component (active component vs. reserve component) and deployment status during the study.

Communication with the Deployed Parent

We surveyed children and caregivers about communication with the parent during deployment. Most adults (89%) and children (80%) reported that they talked to the deployed personnel by phone. More caregivers (91%) than children (56%) were in touch with the deployed parent via email.

More caregivers from active component families reported using email to communicate with the deployed parent compared with reserve component families (96% vs. 83%, p<.05). In addition, fewer families whose parent had just deployed at the time of the follow-up survey compared with those who had been deployed longer reported using the phone for communication, which may be a result of the timing of the deployment precluding this type of contact initially (67% vs. 96%, p<.05).

We also asked children and caregivers to report on the frequency of communication with the deployed parent. Overall, about 24% of children reported communicating with a parent once a day, while 43% of caregivers reported talking to the parent once a day. Nearly 35% of children and 28% of caregivers reported that they talk to the parent periodically but not on a schedule. There were no major differences in communication by service component, however active component families reported more daily contact than reserve component families (child: 52% vs. 48% reserve; caregiver: 60% vs. 40% reserve).

We queried children and caregivers on the topics of conversation that they have with the deployed parent using an open-ended response option. Very few children reported talking

about the war (10%); rather most talked abut school activities (42%) and generally missing the parent (50%). In contrast to the discussions with children, a greater percentage of caregivers reported talking about the deployment (79%). In addition, several talked abut the children and responsibilities at home. There were a couple of notable differences in topics of conversation by service component. A greater percentage of active component families talked about relationship issues (23.1% vs. 3.3% reserve component), and slightly more active component families discussed children during conversations with the deployed parent (100% vs. 93% reserve component) (see Appendix D for tables).

Child Experience with Deployment

We also asked children and caregivers about their level of worry about deployment. In addition, we asked children about the support they received from peers and teachers. Overall, many youth reported great worry about their deployed parent (51%). We analyzed whether there were significant differences in the experience of deployment by age, gender, race/ethnicity and number of deployments. Overall, there were no statistically significant differences by gender, race/ethnicity or number of deployments. However, there are a couple notable differences by age. More children under 11 years compared with older youth 11-14 years believed that teachers knew what life was like for them to be in a military family (37% vs. 26%, $p<.01$). On the other hand, younger children reported more difficulty with schoolwork when the parent was deployed (23% vs. 10%, $p<.05$).

Although differences were not statistically significant, reserve component children had less connection with people who understood military life.

In Table 5, we summarize child response to various deployment experience items by service component. There are some notable trends. First, children of active component personnel worried a lot about their home caregiver while a parent is deployed (38.2% vs. 26.5% of reserve component). Second, children of active component service members reported trouble with schoolwork while their parent is deployed (19.1% vs. 11.9% reserve component). On the other hand, children of reserve component personnel reported that they do not have an opportunity to spend time with other children from military families (14.7% vs. 26.7% active component) and do not have teachers who understand what life is like for them to have a parent serving in the military (26.9% vs. 34.8% active component).

Table 5. Child Response to Parent Deployment by Component (child report at baseline) (n=192)

	% citing *worried a lot*	
Statement	Active (n=118)	Reserve (n=74)
I worry (will worry) about my military parent while he/she is deployed	53.3	47.1
I worry (will worry) about the person (parent) who takes care of me while my parent is deployed	38.2	26.5
My military parent talked to me about deployment	30.3	22.1
I like to keep track of the news about the war	22.7	26.5
I do (will get to do) more things on my own	28.9	29.9
I had/have trouble with schoolwork when my parent is deployed	19.1	11.9
I spend/spent a lot of time with other military kids while my parent is/was away	26.7	14.7
While my military parent was away, my parent at home acted the same as always	40.0	33.8
Teachers understand what it is like for me to be a military kid	34.8	26.9
Kids who don't have families in the military understand what it is like for me to be a military kid	20.2	14.9

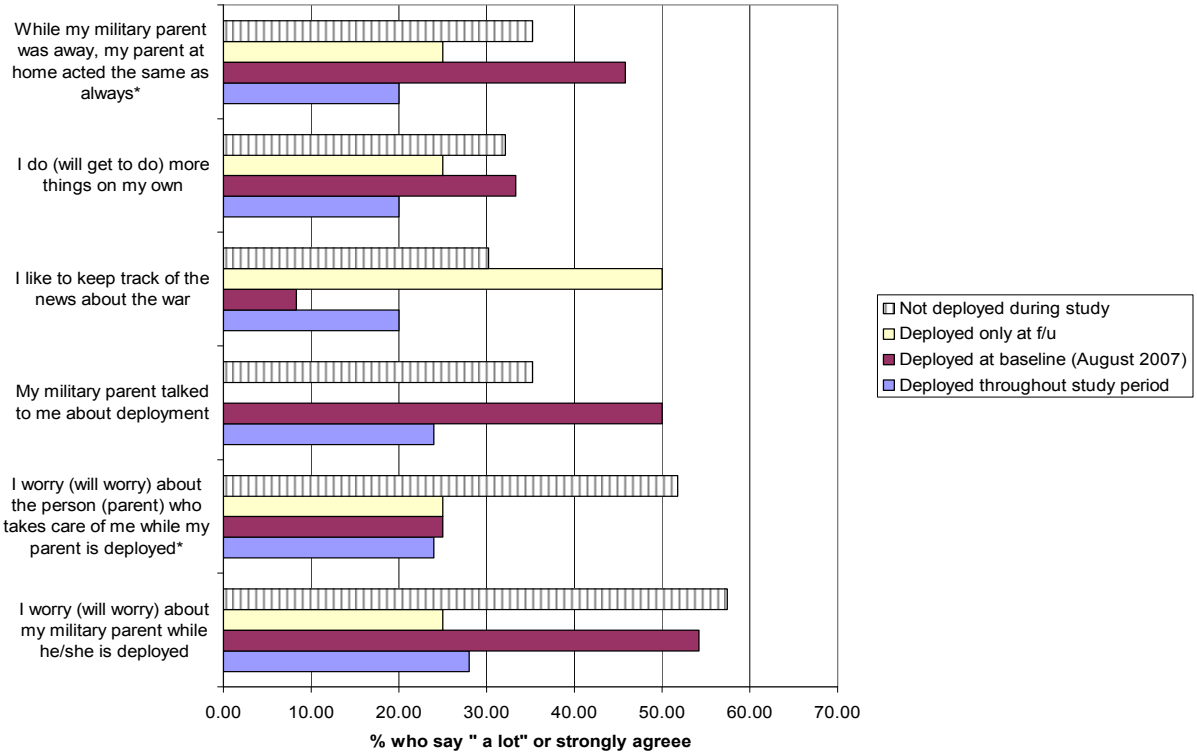
Children reported that home caregivers experienced changes in behavior during a deployment, while their own anxiety increased prior to a deployment.

We examined whether children had differential deployment experiences depending on where their family was on the deployment cycle during this study (August-November 2007) using the follow-up survey data (Figures 4 and 5). Interestingly, children whose parent was not deployed at the time of this study expressed *more* worry about their parents (parent who could deploy and home caregiver) than children who were currently experiencing deployment (57% vs. 36%, $p<.05$). This finding may point to a greater anxiety tied to the anticipation of a deployment that decreases during the actual deployment.

Children whose parents were experiencing deployment (65%) reported that their home caregiver was *not* acting "typically" suggesting that deployment has an important impact on the usual behavior of the parent which children sense or experience. As comparison, children whose parents were home (either just returned or had not deployed during this study) reported that home caregivers were acting like they normally behave ($p<.05$).

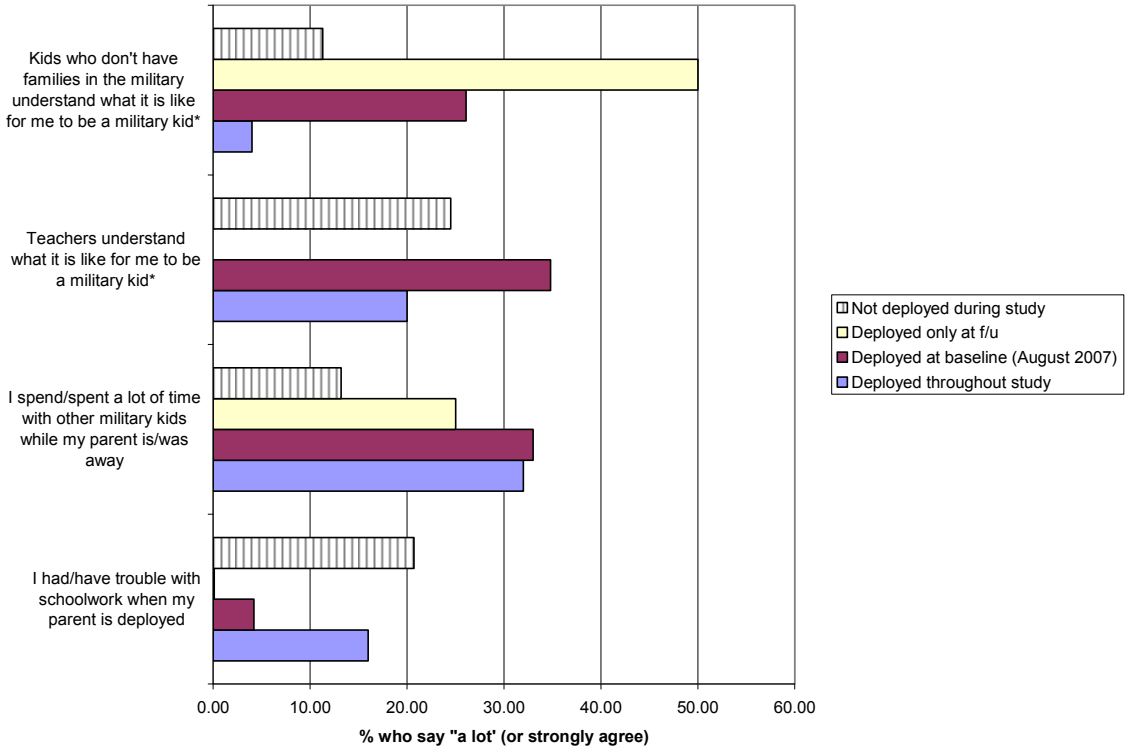
Children whose parents were experiencing deployment shared that they were spending more time with other military youth (32%). However, these children also reported that the experience at school and with peers is difficult for them. Compared to children who were not experiencing a current deployment, the vast majority of children who had a parent that was deployed felt that teachers (80%) or other youth (96%) understood very little of what life is like for them ($p<.05$).

Figure 4. Home/Family Experiences of Deployment by Deployment Status (n=110)



*Significantly different at the $p<.05$ level; **Significantly different at the $p<.01$ level
Note: No bar indicates that no children in this category agreed with this statement.

Figure 5. School/Peer Experiences of Deployment by Deployment Status (n=110)



*Significantly different at the p<.05 level; **Significantly different at the p<.01 level
Note: No bar indicates that no children in this category agreed with this statement.

Caregiver Perspectives on the Impact of Deployment on Child

We also examined the impact of deployment more specifically by asking caregivers about their perspectives on how their child has been affected by the experience. We examined whether there was a differential impact by component and deployment status. Further, we asked children to comment on their experiences.

<u>Home caregivers reported that deployment had impacted children in terms of increased loneliness and more home responsibilities.</u>

Table 6 summarizes caregiver perspectives on the deployment impact on children by component. Overall, most caregivers reported that their children were very proud of their deployed parent. However, many caregivers from both active component and reserve component families indicated that their child became more easily upset or agitated as result of the deployment. There were notable differences by component. First, a greater percentage of parents from active component families believed their child felt lonely

(84.3% vs. 71.8% of reserve component, p<.05) and did not enjoy usual activities as much (47% vs. 36.6% of reserve component). On the other hand, caregivers from Guard or reservist families noted that their children had more responsibilities at home (78.9% vs. 68.0% of active component, p<.10) and acted more independently as a result of the deployment (91.1% vs. 77.2% of active component, p<.05).

Table 6. Impact of Deployment on Child (caregiver report) by Service Component (n=192)

	% Responding True	
	Active (n=118)	Reserve (n=74)
Feels proud	97.1	98.5
Feels lonely*	82.5	69.2
More responsibilities at home	63.1	76.9
Takes more care of siblings	58.0	64.5
Doesn't enjoy activities as much	40.8	29.7
Acts more independently*	74.8	89.1
Acts more mature	75.7	85.9
Gets more easily upset or agitated	65.1	66.2

*Significantly different at the p<.05 level; **Significantly different at the p<.01 level

Table 7 summarizes differences by deployment status with respect to the impact of deployment on the child. Not surprisingly, children whose parent was gone throughout the study experienced greater loneliness than children whose parent returned or only was deployed recently. Children whose parent was deployed and just returned by the follow-up survey spent more time alone away from family and less time at home than children whose parents were deployed throughout our study period (p<.05). It is difficult to interpret what may influence these differences, though one argument could be that the relative recency of a deployment or reintegration may point to less interest in spending time at home (i.e., as a result of related stresses), while this need to spend time outside the home diminishes as the deployment becomes more normalized.

Table 7. Impact of Deployment on Child (caregiver report) by Deployment Status (n=110)

	% Responding True		
	Deployed throughout study period	Deployed only at baseline (August 2007) but returned	Deployed at f/u (November 2007)
Feels proud	100.0	100.0	100.0
Feels lonely	84.0	69.6	50.0
More responsibilities at home	72.0	73.9	50.0
Takes more care of siblings	36.0	56.5	25.0
Doesn't enjoy activities as much	28.0	43.5	25.0
Acts more independently	79.2	79.3	75.0
Acts more mature	75.0	69.6	75.0
Gets more easily upset or agitated	58.3	69.6	50.0
He/she spends more time alone*	21.8	60.9	0.0
He/she spends less time at home	8.3	21.7	25.0
He/she has trouble with schoolwork	41.7	34.8	0.0

*Significantly different at the p<.05 level; **Significantly different at the p<.01 level
Note: During the follow-up survey, we added three new items (last three rows) to the survey listed here.

Child Perspectives on the Impact of Deployment

We also asked children to report on the aspects of the deployment and the return of the deployed parent that was most difficult (using the follow-up survey with an open-ended format). Please note that we created categories for open-ended responses in order to enumerate items. We report frequency differences where appropriate in this section, but we did not conduct significance testing on these findings as they were a result of an open-ended question.

Children expressed worry about their deployed parent and cited changes at home, including missing usual activities.

Many children talked about the difficulties from missing the parent and the worry they feel about the deployed parent. For example, one child shared that it made her sad to "only be said good night by one grown-up voice." Children also described the challenges of helping their home caregiver during the deployment. One child explained that he "had to help my mom because she was very stressed." In addition to the difficulties at home, several children wrote that many people did not understand what they were going through as a result of the deployment. They also shared that it was hard when people did ask about their deployed parent because they did not know how to respond and it was uncomfortable.

A child offered that is was troubling to deal with comments from family and friends such as:

"Oh, how are you? Have you talked to your dad? When have you seen him? Is he coming home for Christmas?"

Children whose parents were deployed at the time of the follow-up survey cited missing activities as an issue more often than children whose parents had returned (50% vs. 36.8%). Children from reserve component families noted that community members did not understand what they were going through, but this was not identified as an issue by children of active component (20% vs. 0%) (see Appendix E for deployment experience tables).

Children reported challenges when the deployed parent returns home, including confusion about who is running the house.

Youth also described the experiences when a deployed parent returns home. While they are grateful to have that parent at home, the return can present challenges. Children wrote about the difficulties of reengaging that parent in a new home routine:

Me and my mom had a routine and when dad came home we had to get to know a new routine.

All of the youth of reserve component families cited difficulties of returning to life and the home routine, whereas this was less of an issue for children of active component personnel (100% vs. 55%). Among youth whose parents returned by the time of the follow-up survey, approximately 57% noted that getting to know a parent again was difficult. Children discussed that becoming reacquainted with that parent and communicating with him or her creates some stress. One child talked about not knowing where to turn for his role models:

I used to always look towards my mom for answers, now it's hard switching back to both parents.

Further, children reported that they could see how difficult it is for that deployed parent to learn home life again. Approximately 30% of children indicated that dealing with parent stress and mood changes was an issue. A child wrote:

Him trying to get back into the swing of things. It took him a long time. He went slow and it made me stress out a lot.

Impact of Deployment on Caregiver

In this study, we also asked caregivers to describe the impact of the deployment on their own lives. Table 8 describes the effect of the deployment by service component. Most caregivers expressed pride in the fact that their loved one was serving. However, more caregivers from active component than those from reserve component families reporting feeling lonely (87.8% vs. 77.5%) and having more responsibilities at home (88.7% vs. 74.6%, p<.01).

Table 8. Impact of Deployment on Caregiver by Component (n=192)

	% Responding True	
	Active (n=118)	Reserve (n=74)
Feel proud	97.1	98.5
Feel lonely	86.4	75.0
More responsibilities at home**	87.4	72.3
Doesn't enjoy activities as much	66.0	56.9
Rely more on friends for help	54.4	58.5

*Significantly different at the p<.05 level; **Significantly different at the p<.01 level

There were no major differences in deployment impact by deployment status during this study, with one notable exception. Families in which the parent had recently deployed (time of follow-up study, November 2007) (67%) noted more difficulties in talking about the deployment with the child compared with families whose parent had been deployed for the longer duration of the study (16%, p<.05). This may suggest that talking about the deployment becomes less challenging or easier over time as the experience becomes more routinized.

During deployment, home caregivers were struggling with the life of single parenthood.

We asked caregivers to report on the aspects of the deployment and the return of the deployed parent that was most difficult. The challenges of being a single parent were paramount particularly among those families experiencing a current deployment compared to those whose spouse/partner returned (95% vs. 74%) (see Appendix E). When the parent was gone, caregivers described the difficulties from single parenthood and serving as the sole decision maker. One parent shared:

The idea that I was: mom, dad, disciplinarian, planner, working parent "fun" parent all rolled into one for a full year. I felt like I was in so many "lose-lose" situations because I had to make all the decisions on my own, even the bad ones that our kids would resent me for since I had no one else to back me up.

Caregivers also discussed that they had no down time to recover because they were constantly tending to the children and the home. One mother wrote:

The 24/7 complete responsibility of your children. You were always "on-call" for the midnight feedings, vomit, diaper changes, to the challenging homework and school activities.

In addition to the general difficulties of signal parenthood, several parents noted that household maintenance issues were a significant challenge. For example, one mother shared the problems from "dealing with things going wrong in the house all alone, such as plumbing repairs, or anything that breaks down in the house."

While the absence of the parent created challenges for daily routines, caregivers also reported on the emotional toll of the deployment for them and their children. Respondents described how much they missed their partner and the sadness they felt from the lack of communication. Caregivers from reserve component families more frequently noted difficulties in their relationship with the spouse than those from active component families (43.8% vs. 35.3%). One woman shared:

Not being able to talk to my husband about my emotional issues. He was at war and I felt foolish telling him I had a bad day.

Furthermore, nearly half of caregivers identified problems with children's behavior and helping their children deal with the deployment. A mother wrote:

I had a hard time finding ways to get my 11-year-old son to communicate. I could tell he was holding in a lot of his feelings.

While the deployed spouse/partner return brings joy, it also presented challenges for the home caregiver particularly with respect to integrating into the home routine.

Similar to their child reports, the return from deployment also presented difficulties. Caregivers described the problems presented from having a spouse come home to a new routine or a new set of rules. A mother shared this issue:

My husband coming home and wanting to change the routine or the way I've been doing things for the past 8 months.

In addition, caregivers wrote that it can be challenging to bring a partner back into the decision making regarding children or to share responsibilities. A caregiver explained:

Readjusting to roles in the family – after I was responsible for everything for so long—giving control of some things back and who's going to take care of what.

Several caregivers reported problems from the stress that the deployed parent had been under abroad and general changes in mood. Caregivers shared that the deployed person often had anxiety, anger, or sadness. One caregiver wrote:

He loses his temper more frequently, and over insignificant things sometimes.

Caregivers from reserve component families more frequently noted difficulties in their finances compared with active component families (41% vs. 13%). On the other hand, active component caregivers discussed the challenges of reconnecting with children and dealing with child behavior more than reserve component families (45% vs. 27%).

The Experience of Operation Purple Camp

The third goal of our study was to assess child and caregiver experiences with Operation Purple Camp and gain insight into its impact as a support intervention for families of deployed servicemembers. The sections below describe the results of our survey about motivations for attending the camp and participant expectations, experiences, and levels of satisfaction.

Caregivers and children wanted to attend Operation Purple Camp for the combination of meeting other military children and the enjoyment of camp.

Prior to the camp, we asked caregivers and children about the reasons for camp attendance (Figures 6 and 7). For caregivers, providing their child with a chance to be with other military children, make new friends, and enjoy camp activities were main motivations. Children shared similar reasons and also reported that simply having something to do was important.

There were some notable differences in the relative emphasis that caregivers and children placed on reasons for participating in OPC. For example, 79% of caregivers versus 53% of children felt that making new friends was a very important motivation for attending OPC. Similarly, more caregivers wanted their children to meet other military youth (85% vs. 55% of children). On the other hand and perhaps not surprisingly, children focused more on the opportunity to enjoy camp activities and to have something to occupy their time.

Figure 6. Youth Motivations for Camp Attendance

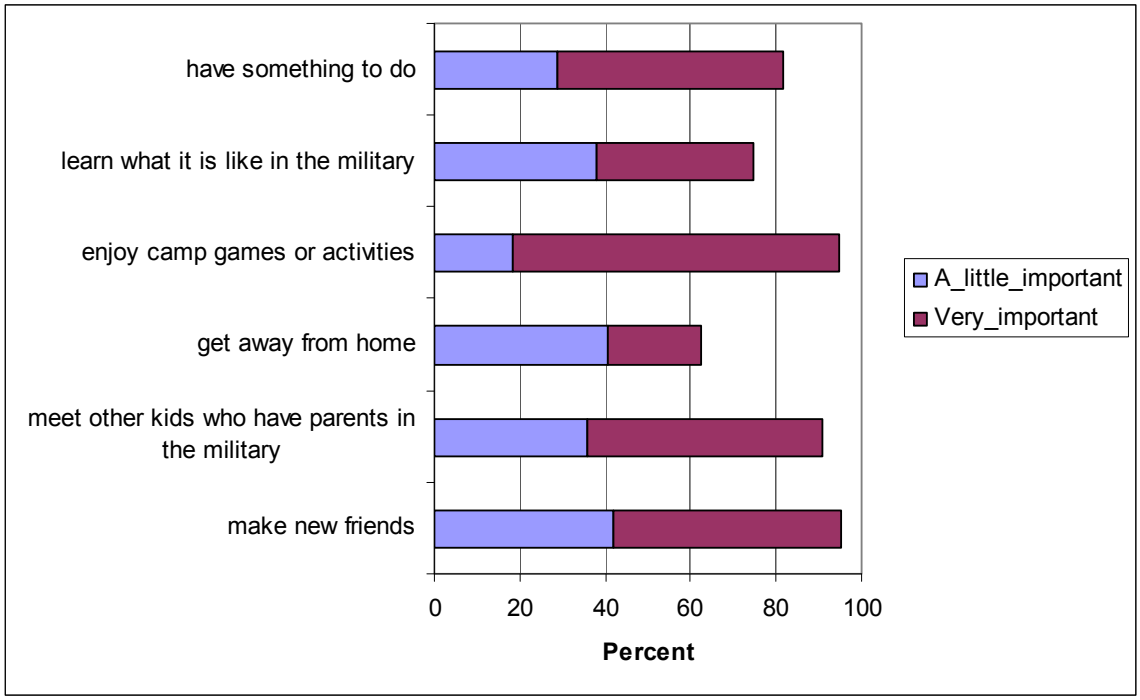
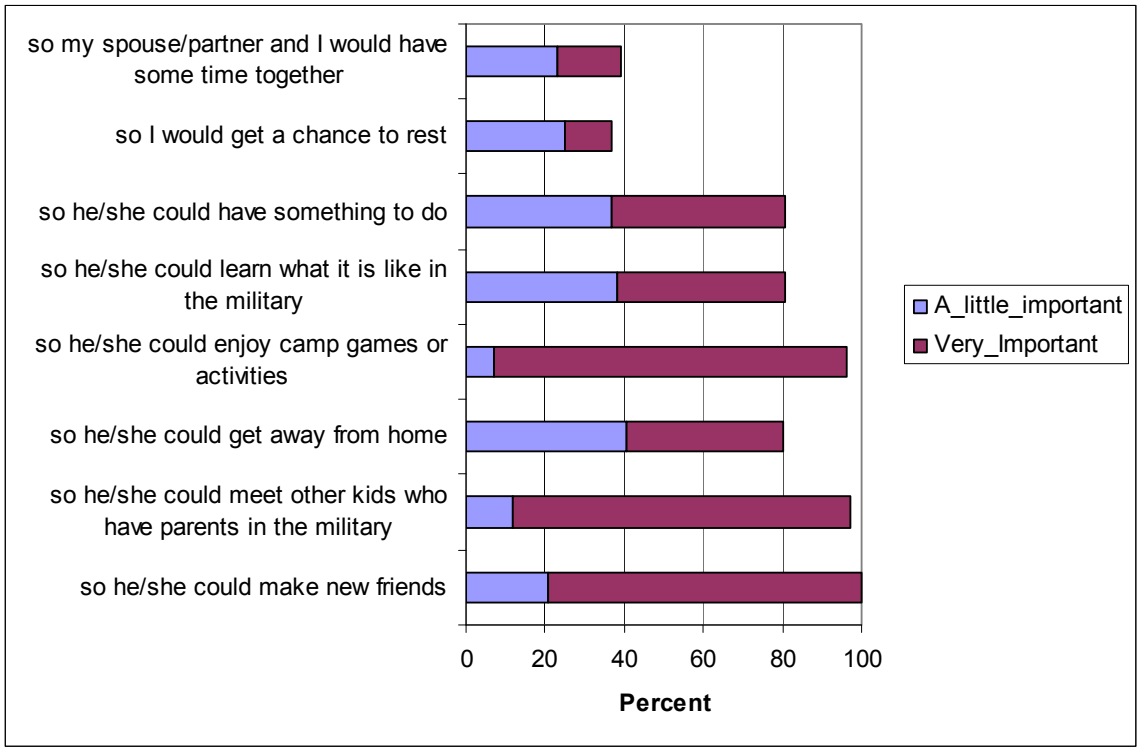


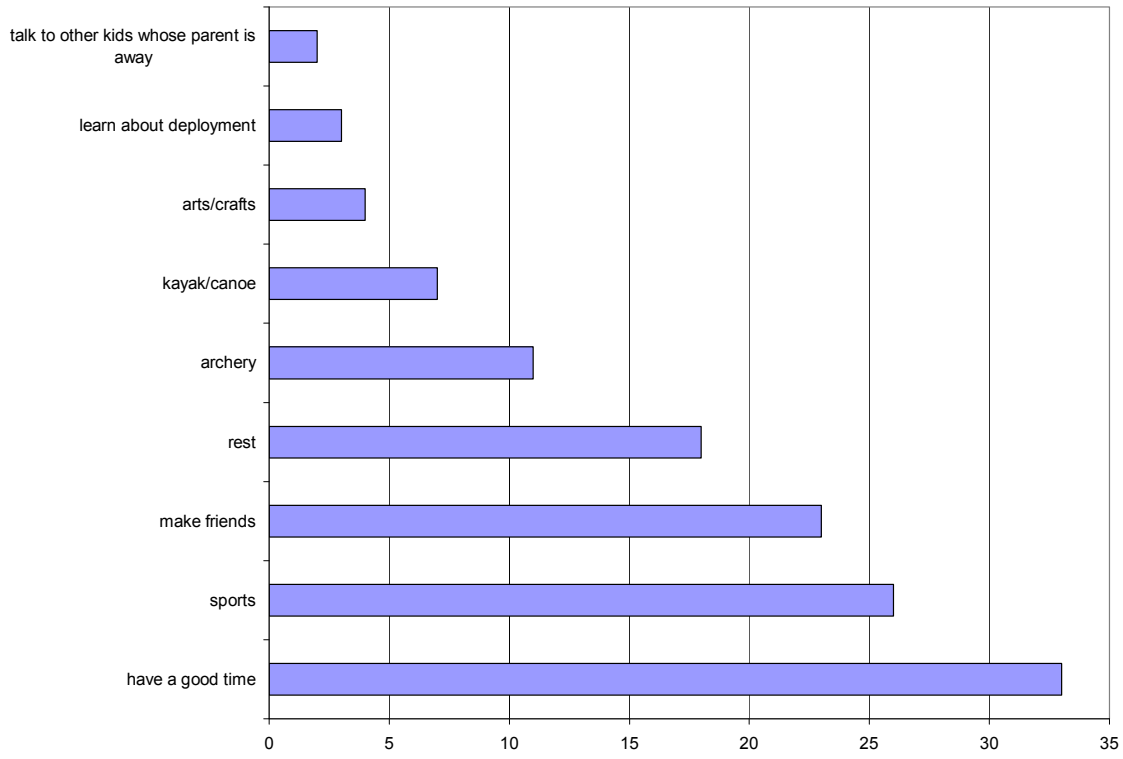
Figure 7. Caregiver Motivations for Camp Attendance



Youth also expected to make new friends and learn new sports at camp.

We also provided an additional opportunity for youth and caregivers to share their expectations for the camp experience using an open-ended question (Figure 8). Among youth who responded, many hoped to have an enjoyable experience at camp (33%), enjoy sports such as swimming (22%), and develop friendships (23%).

Figure 8. Youth Expectations for Camp



Caregiver Camp Expectations

We also provided an opportunity for caregivers to describe their camp expectations using an open-ended item. Caregivers articulated their hopes and expectations for their child's OPC experience, which clustered in four thematic areas: 1) interacting with other military youth; 2) coping with deployment; 3) adjusting to new roles at home; and 4) learning to enjoy life as a child.

Caregivers were keen on their children connecting with other military children at camp and sharing life experiences.

The most common expectation for OPC was that the camp would afford children an opportunity to interact and share experiences with other military children. Caregivers anticipated that camp would affirm for their children that they are not alone in the military experience. They welcomed the idea of bringing children together in a similar situation as a means of showing children that they have an extended support network. This sentiment was particularly true for children from Guard or reserve families. One Guard caregiver remarked:

I just want him to have friends who have the experience of a parent deployed. Most of his friends do not understand that this dad being away is not like going away for a business trip.

Many caregivers expected that OPC would give their child a chance to gain strength from the experiences of others and to see examples of how other families are coping. One mother responded:

I would like [name of child] to know that she's not alone in her situation, and that all the feelings she has are valid. I want her to feel proud that her dad is serving in another country and that we picked up and functioned well in his absence.

Caregivers whose spouses/partners had been deployed several times articulated the potential benefits that their children could bring to other children just embarking on the deployment experience. Their words confirmed the sense of community that they hoped would develop as a result of OPC:

To help other kids and let them see how strong she has been and that she is doing well and life goes on.

Caregivers also hoped that their children would have the opportunity to learn how to cope with deployment.

Caregivers shared that gaining skills to cope with deployment was a key goal for their child's OPC experience. They wanted children to learn how to confront their stress, handle their emotions, and gain skills to manage feelings of anxiety. For example, one mother wrote:

I want my children to learn coping skills for the upcoming deployment. Both children are being clingy and angry and they need more help than I can give to sort this out.

Another caregiver shared:

To make new friends, experience new adventures and confidence. I would like to see him to learn how to express how he's feeling a little more often so it won't build up.

In addition, several caregivers believed that OPC would be an opportunity for their child to become mentally ready for the upcoming deployment and understand how to manage the multiple deployments. One mother explained:

I would like him to vocalize his feelings regarding the many deployments we deal with.

Caregivers expected camp to help children handle the new routines that they have at home during deployments.

In addition to learning strategies to cope with current or pending deployments, caregivers discussed that they wanted OPC to provide a venue in which their children would become more independent and experience life away from home. Caregivers expressed that they hoped camp would instruct children on how home routines can change during deployment and how each family member may need to take more leadership roles in the household. For example, one mother shared:

I want my child to gain an understanding of how the household changes and that we all have to assume more responsibilities.

Caregivers also recognized that children were dealing with new responsibilities and wanted them to enjoy typical camp experiences.

Despite the interest in building a sense of independence, many caregivers hoped that OPC would serve as a critical opportunity for their children to actually enjoy life as a child away from the stresses of the deployment and military life. This apparent tension was articulated by many caregivers who also wanted their children to be more independent.

One mother wrote:

I would most like him to see that it is okay for him to be like other kids and that he does not need to be older faster. He seems to feel as if he is not important unless he is noticed as someone in charge by adults.

The vast majority of the caregivers who wrote about their concerns about a child "growing up too fast" shared anxieties about male children. For example, one mother simply shared that she wanted OPC to help her son "learn how to be a boy of 12 years old and not a young man of 25."

Camp Experience

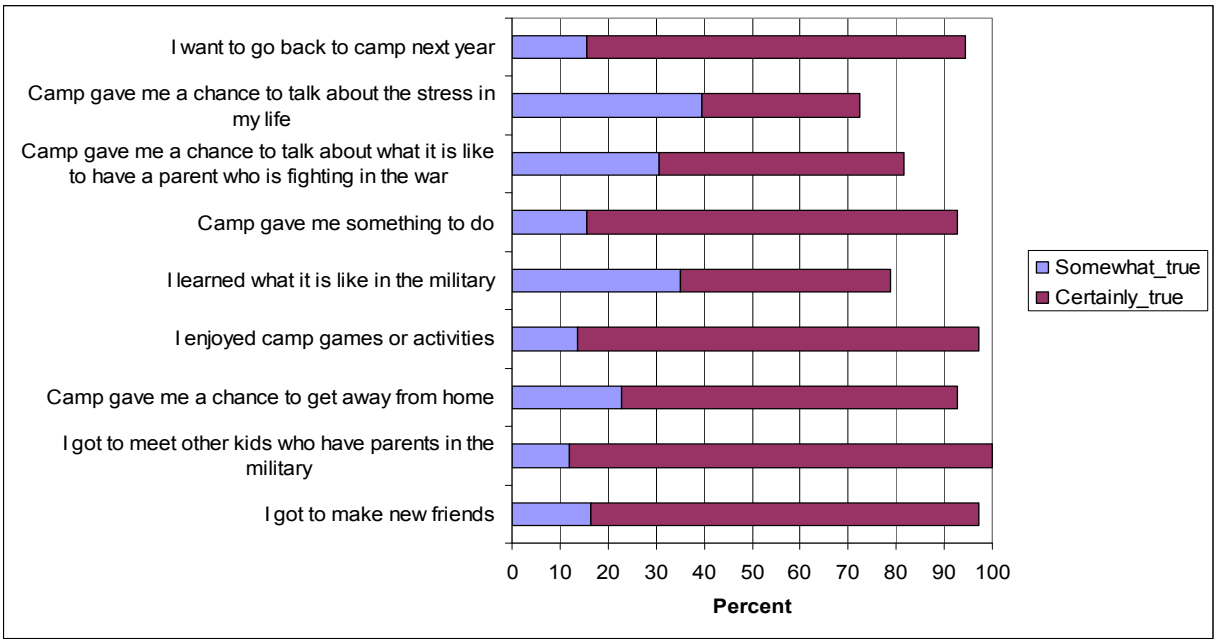
We also asked children and caregivers to report on the experience of camp using the end-of camp child survey and questions in the 3-month follow-up survey.

Operation Purple Camp met or exceeded youth expectations.

Overall, the camp experience was very positive for children. Figure 9 summarizes youth experience with Operation Purple Camp as described in the 3 month follow-up survey. An overwhelming number of youth wanted to attend the camp again,

welcomed the opportunity that camp provided to simply have something to do, and appreciated the chance to meet other youth from military families.

Figure 9. Youth Experiences with Camp



When asked about what they learned about themselves from camp, youth shared that OPC provided a critical opportunity to connect with other children from military families and that it is acceptable to communicate their feelings about their parent's service.

I learned about myself…that I am I'm not the only one that has a parent in the military and I can share how I feel with them.

This feeling of camaraderie was strongly felt by children from reserve component families who are often isolated from other military families:

Yes, it was very helpful because I was able to talk about my feelings to kids and people who actually know what it's like to have a parent who's deployed.

Camp also offered time for problem-solving and gaining confidence. The chance to participate in new camp activities and to share in group was critical as one child shared:

I can handle problems pretty well depending on what the problem is. Trying new things is important because you would learn the proper way to do it and one day it may save your life.

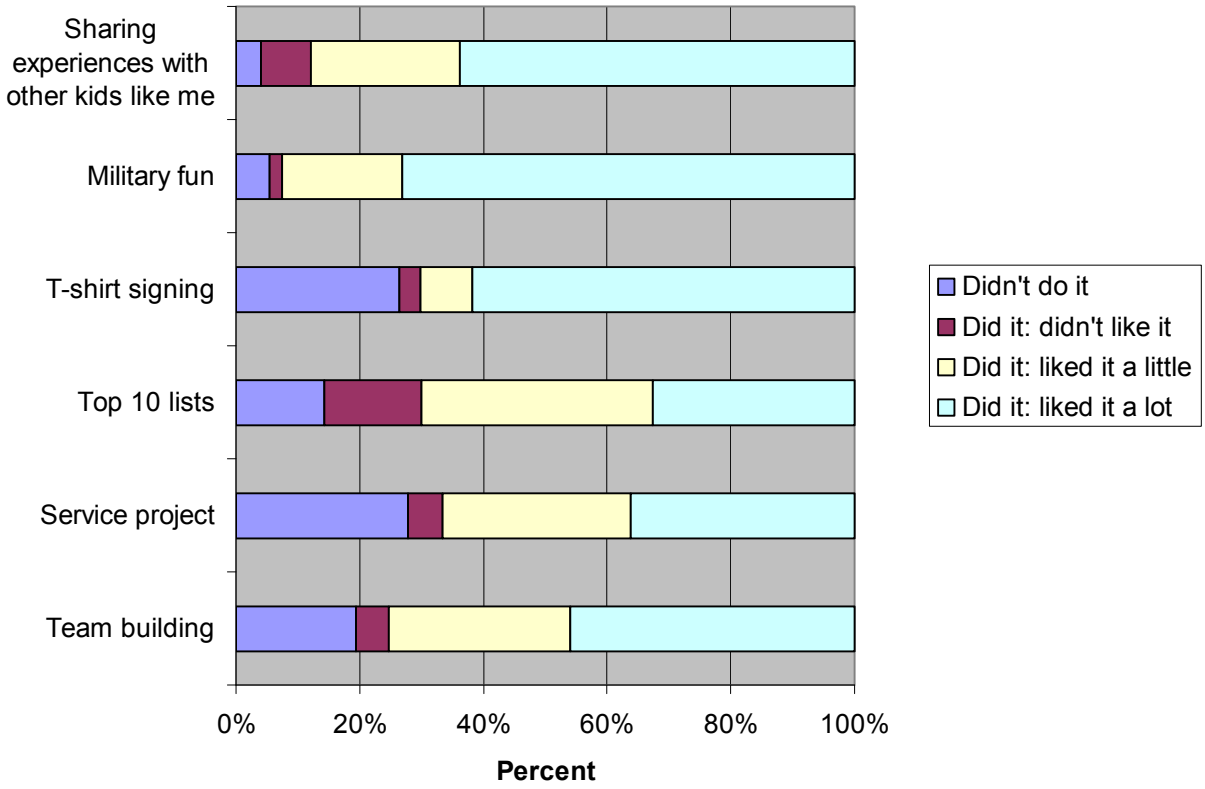
Children explained that they gained a better understanding of the jobs and responsibilities of their deployed parent, particularly since many felt like the experience was unclear or a

mystery to them. OPC also reminded children that they are part of the current OIF and OEF efforts.

While I was at camp, I learned that adults aren't the only ones that serve. Kids serve too.

We also examined youth satisfaction with particular OPC activities, using the end-of-camp survey (Figure 10). Overall, children noted that *military fun* activities and sharing experiences with other children from military families were well-received. The Top 10 lists activity was less popular among respondents.

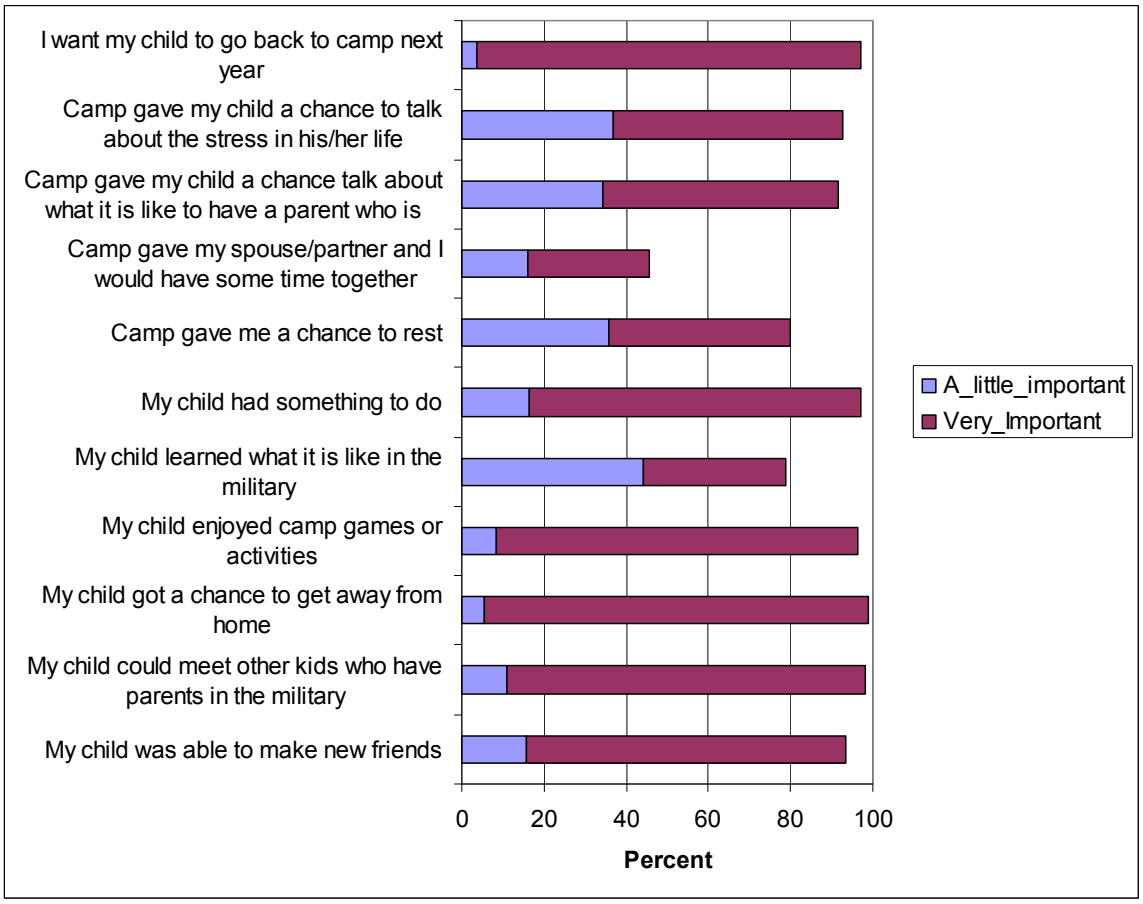
Figure 10. Youth Satisfaction with Camp Activities



Home caregivers appreciated the benefits of camp for their child and also welcomed some "down time."

Caregivers also expressed great satisfaction with OPC in their follow-up surveys (Figure 11). The vast majority of caregivers wanted their child to return to camp the following year. In addition, they were appreciative of the opportunity for their child to meet other youth from military families and have some time away from home. In addition, several parents welcomed the time to rest and relax with spouses/partners.

Figure 11. Caregiver Experiences with Camp



Chapter 4. Conclusions

This pilot study provides an important snapshot of the well-being of children and families experiencing deployment as well as the benefit of Operation Purple Camp, a key support program. The study also highlights key areas of further inquiry with respect to how these children and families are faring in the context of OIF and OEF's multiple and extended deployments. In the next sections, we briefly summarize the key findings of this study, identify limitations in interpreting the results, and offer new directions for research and programs.

Key Findings

As described earlier, we had three research objectives: 1) to describe child and caregiver well-being among a sample of military families; 2) to examine the perceived impact of deployment on child and caregiver; and 3) to assess the motivations for attendance and benefits of OPC.

Aim1: Child and Caregiver Well-Being

Overall, we did not observe significant differences in child anxiety or emotional difficulties by deployment status, a finding that runs somewhat counter to current research. However, we did find that OPC caregivers reported more child emotional and behavioral difficulties than parents from a population-based sample, perhaps suggesting differences with non-military children and/or children not directly affected by the current context of deployments. However, this finding must be interpreted with the limitation that the U.S. population comparison group does not exactly align with our OPC sample by age range. In addition, families who attend OPC may be either more stressed (seeking support of camp) or less stressed (more organized and able to attend camp).

We also noted that active component families reported more challenges than reserve component families. This finding highlights a possible area of intervention, suggesting that parents, specifically from active component families, may benefit from more assistance in addressing child behavioral and mental health needs. In addition, there were notable differences in family functioning whereby families experiencing a current deployment or recent parental return had somewhat poorer functioning, thus reinforcing efforts to support families at the time of separation and reintegration.

On average, caregivers in the OPC sample are experiencing somewhat poorer mental health than other adults, though the standard deviation is sufficiently high (SD=9.4) precluding a definitive conclusion about whether this difference is significant. There are trends by service component, with caregivers from reserve component families reporting somewhat poorer mental well-being than caregivers from active component families. This is perhaps not surprising given that these caregivers also identified more difficulties from

having too many responsibilities and not enough personal time. While caregivers from reserve component families were reporting more challenges personally with deployment, caregivers from active component families were citing more child emotional difficulties. This inconsistency is worthy of further investigation to understand the reasons for the differential experience. For example, family characteristics that vary by service component (e.g., available resources, community of residence) may help to explain dissimilar perspectives on child behavior. However, caregivers from active component families may not cite mental health challenges due to normalization of these feelings or reluctance to share (e.g., stigma, fear of negative report for service member).

Aim 2: Impact of Deployment

The deployment experience is different by deployment status and service component, both for children and caregivers. Children across service component noted that deployment impacted their home caregiver's behavior; however children from reserve component families identified more difficulties with parent readjustment after a return from a deployment. Broadly, children of active component personnel expressed greater worry about their home caregiver during deployment and cited trouble with school work. On the other hand, children of reserve component families were more externally focused, indicating greater trouble with the fact that peers and teachers had little understanding of their deployment experience. Differences by component also were noted with respect to caregiver report. Reserve component families cited more child loneliness and disengagement, whereas active component families reported increasing the roles and responsibilities of the child.

This finding regarding child responsibilities parallels caregiver report on the impact of deployment for their own lives. Caregivers from active component families indicated that they also had more responsibilities at home. On the other hand, reserve component families discussed more challenges with finances both when the parent was away and when that parent returned, suggesting that these issues remain troubling and perhaps increase when the parent tries to reengage in a job upon return. Deployment appears to have an impact on the stress at home as more caregivers cited hassles from single parenthood and conducting every household task when the parent was away. However, this stress diminished based on when that parent returned.

Aim 3: Perceived Benefits of Operation Purple Camp

Finally, we examined the motivations and benefits of Operation Purple Camp. Children and caregivers sought the traditional benefits of the camp experience. Caregivers identified opportunities for their child to meet other military children, cope with deployment, gain independence, and learn to enjoy life as a child as key motivators. Overall, children and caregivers perceived OPC to be beneficial with respect to these goals. For example, children were able to meet other children who have parents in the military and discuss the experience of having a parent who is away. An overwhelming

majority of children and caregivers hoped to attend camp the subsequent year. From a OPC programming perspective, the opportunity to engage in military themed activities was better received than other camp events, including the Top 10 lists, team building, and the service project.

Limitations

While this study offers critical information on the well-being of children and families and the impact of deployment, this is a pilot effort and thus findings should be interpreted with caution. First, our analysis is based on a relatively small sample size. Therefore, we are unable to determine if some of the trends in child and caregiver functioning are statistically significant. Since this study was exploratory, we conducted a number of analytic tests to examine potential differences, but some relationships could be significant by chance. Further, we had a smaller follow-up sample precluding some analyses of child and caregiver health and well-being over time. In addition, we were only able to analyze the deployment impact items (i.e., hardest things about deployment) among those families experiencing a deployment during the study period, which was only 50% of the follow-up sample. In addition, we were only able to retain a percentage of families who were currently experiencing a deployment at 3 months follow-up, suggesting that perhaps families who do not continue participation were more burdened. Second, the sample is not representative of all children who attend Operation Purple Camp, and thus it is difficult to generalize. Given that we were only able to approach children and families at five of the camps during the summer of 2007, we were unable to obtain a wider representation of OPC families across service branch, component, geographic location, or deployment status. Third, the sample is not representative of military families in terms of service branch or race/ethnicity; thus findings regarding the deployment experience also should be considered in light of this issue. In addition, the families that enroll in OPC may be more or less stressed, and thus may not represent the overall deployed populations in terms of child well-being or family functioning. Fourth, we asked children and caregivers to report on the difficult aspects of deployment and post-deployment, yet this question may have lead participants to report on challenges that were less significant for them yet were compelled by the question. Finally, given the limited research available on the impact of deployment on children, we newly created several questions on this topic for the pilot study. While many of these items proved quite informative, we have no means of comparing our sample with other studies.

Future Directions in Research and Support Programs

The findings of this pilot study highlight several new directions of further inquiry. First, we gained new insight on the differential experiences of active and reserve component families, which merits further investigation. For example, additional research should continue to explore how family processes are affected by deployment and reintegration and what social supports and resources can be provided to help home caregivers

maintain the household and care for children who may be experiencing significant behavioral and emotional difficulties. Second, our study coupled analyses of child and caregiver functioning by service component and deployment experience. A follow-up study should further probe the mental health needs of both child and caregiver given the stressors identified in our analysis. A longitudinal study with a larger, more representative sample would allow for examining how functioning and well-being changes over the course of the deployment cycle. Moreover, this analysis would uniquely afford an opportunity to assess how the relationship between child and caregiver changes over this time period. In addition, we were unable to fully compare caregiver and child report of child behavioral issues given the age range of children in the study and our measures (e.g., the SDQ). Given that child perspectives on their own well-being are often missing from this research (see Chapter 2), any subsequent analyses should use more measures of child report to enhance concordance analyses. Third, this study further shows the perceived benefits and satisfaction with programs like OPC for military families. Given our analyses indicating differential experiences with social support and deployment by service component, OPC should consider integrating more activities to assist reserve component families to build networks particularly when these children experience isolation and lack of understanding in their own schools and communities. While this is a pilot effort, this study offers a critical first step in gathering evidence on how children and caregivers are faring during this recent and intense period of military engagement.

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Appendix A: Additional Sample Demographics

Table A1. Demographic Characteristics of Child and Caregiver by Service Branch

(N=192)

Characteristic	Overall (%)	Army (%)	Navy (%)	Marines (%)	Air Force (%)	Coast Guard (%)
Child's gender*						
Male	51.4	55.4	33.3	35.3	50.0	0.0
Female	48.6	44.6	66.7	64.7	50.0	100.0
Parent's gender						
Male	11.5	15.3	13.5	22.2	11.1	0.0
Female	88.5	84.7	86.5	77.8	88.9	100.0
Child's age (years)						
7	2.4	3.4	5.7	16.7	5.6	0.0
8	6.1	11.9	11.4	11.1	22.2	100.0
9	15.9	20.3	11.4	27.8	22.2	0.0
10	15.9	16.9	25.7	5.6	27.8	0.0
11	22.0	23.7	11.4	16.7	11.1	0.0
12	15.9	15.3	17.1	5.6	5.6	0.0
13	12.2	6.8	17.1	16.7	0.0	0.0
14	6.1	1.7	0.0	0.0	5.6	0.0
Child race/ethnicity**						
White, non Hispanic	83.3	79.3	78.4	83.3	77.8	100.0
Black, non Hispanic	9.0	15.5	10.8	0.0	11.1	0.0
Hispanic	11.5	6.9	5.4	16.7	5.6	0.0
Asian	2.6	6.9	8.1	0.0	5.6	0.0
Native American	0.0	0.0	0.0	0.0	0.0	0.0
Other	5.1	3.4	5.4	5.6	0.0	0.0
Parent relationship to child						
Mother	80.8	78.0	83.8	82.4	88.9	100.0
Father	11.5	15.3	16.2	17.6	11.1	0.0
Stepmother	3.8	3.4	0.0	0.0	0.0	0.0
Stepfather	0.0	0.0	0.0	0.0	0.0	0.0
Grandparent	2.6	3.4	0.0	0.0	0.0	0.0
Other	1.3	0.0	0.0	0.0	0.0	0.0
Child relationship to deployed parent						
Self	19.2	18.6	16.2	22.2	16.7	0.0
Spouse	70.5	72.9	83.8	72.2	77.8	100.0
Ex-spouse	3.8	1.7	0.0	0.0	0.0	0.0
Parent	1.3	1.7	0.0	0.0	0.0	0.0
Sibling	5.1	3.4	0.0	0.0	0.0	0.0
Other	0.0	1.7	0.0	5.6	5.6	0.0
Caregiver employment status						
Full time (35-40 hrs/week)	44.9	34.5	30.6	33.3	38.9	0.0
Full time (> 40 hrs/week)	9.0	12.1	13.9	22.2	5.6	0.0
Part time (less than 35 hours)	9.0	12.1	11.1	5.6	16.7	0.0
Unemployed, Seeking work	6.4	8.6	2.8	5.6	16.7	100.0
Unemployed, not seeking work	30.7	32.8	41.7	33.3	22.2	0.0

*Significantly different at the p<.05 level; **Significantly different at the p<.01 level

Appendix B: Child Peer and Family Functioning

Table B1. Child Peer and Family Functioning by Key Child Demographics (n=192)

Higher values indicate better functioning or more skills

	Age		Gender		Race/Ethnicity	
	7-10 years	11-14 years	Male	Female	White, non Hispanic	Non-white
Prosocial skills (range 0-10)	8.6	8.4	8.2	8.8*	8.6	8.0
Peer functioning (range 0-5)	4.1	4.2	4.2	4.1	4.1	4.2
Family functioning (range 0-5)	3.2	3.0	3.2	2.9	3.0	3.2

*Significantly different at the p<.05 level; **Significantly different at the p<.01 level

Table B2. Child Peer and Family Functioning by Service Component (n=192)

Higher values indicate better functioning or more skills

	Active (n=118)	Reserve (n=74)
Prosocial skills** (range 0-10)	8.2	8.9
Peer functioning (range 0-5)	4.1	4.2
Family functioning (range 0-5)	3.2	2.9

*Significantly different at the p<.05 level; **Significantly different at the p<.01 level

Appendix C: Caregiver Hassles, Concerns

Figure C1. Caregiver Concerns about Children (n=192)

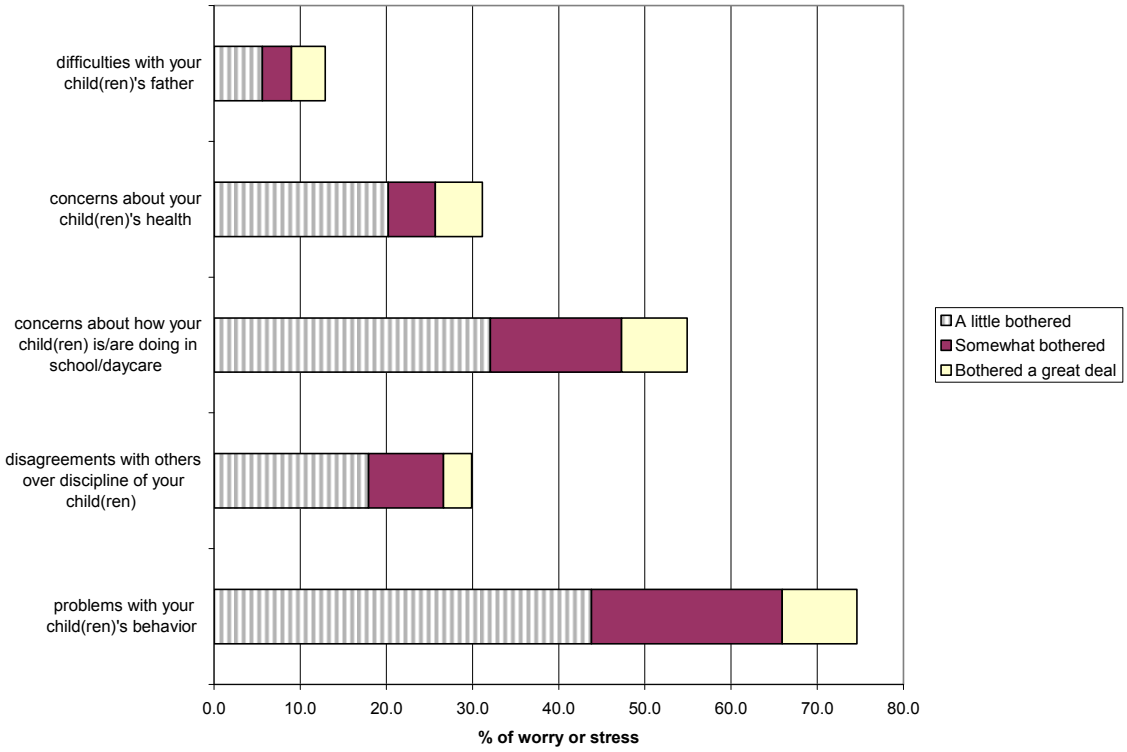


Figure C2. Caregiver Concerns about Household, Finances, Related Responsibilities (n=192)

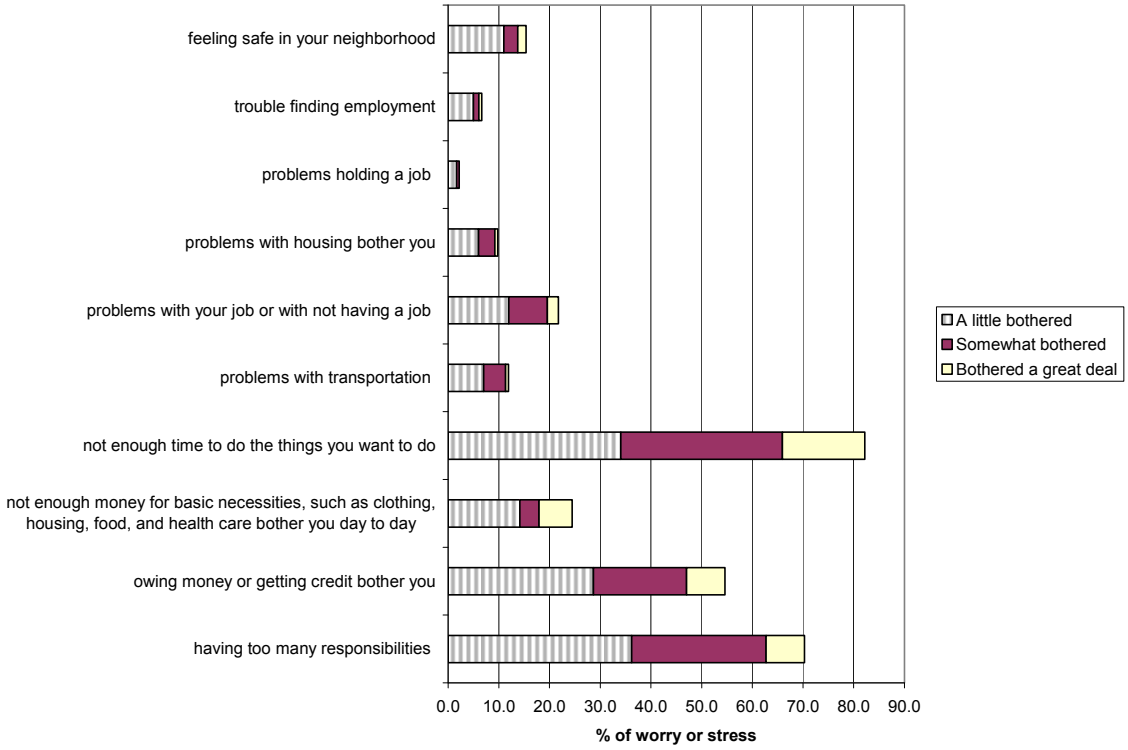
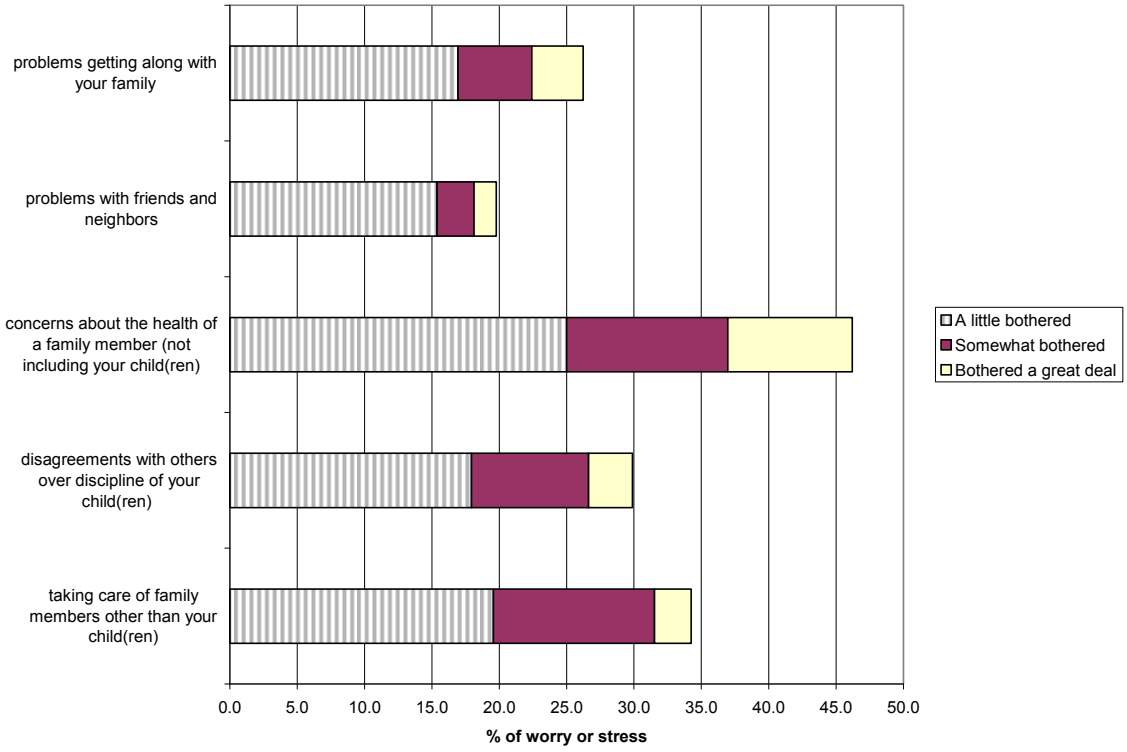


Figure C3. Caregiver Concerns about Other Family Members
(n=192)



Appendix D: Communication with Deployed Parent

Figure D1. Topics of conversation (children)

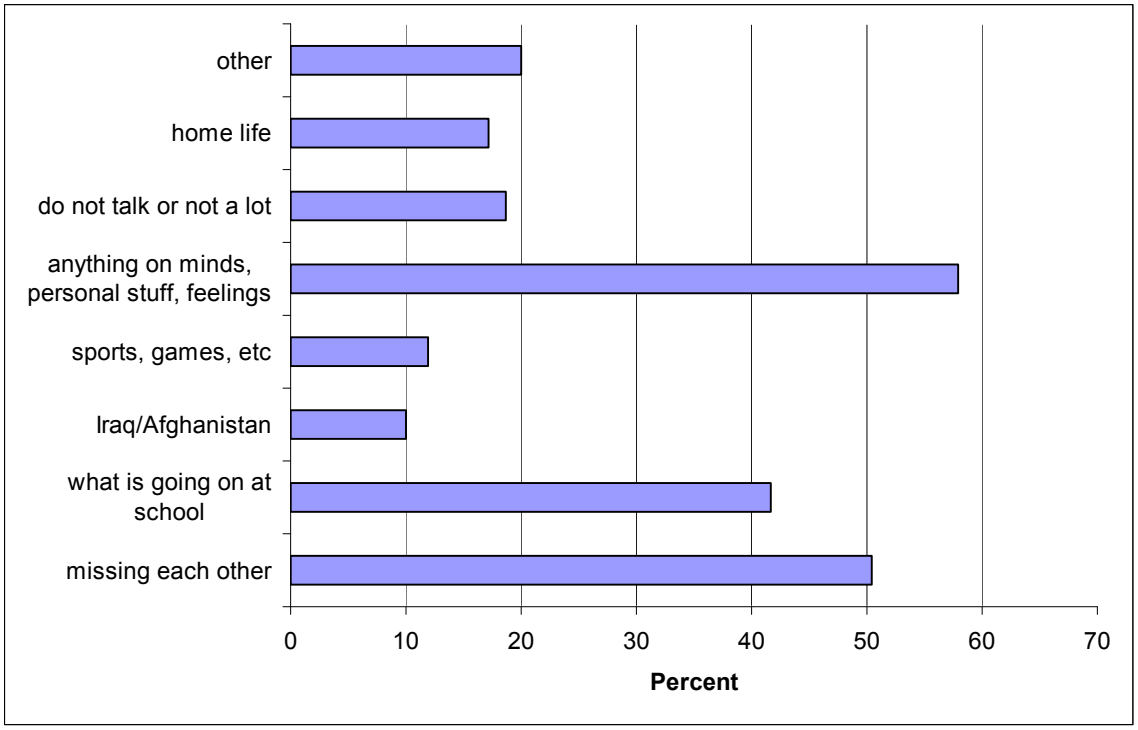
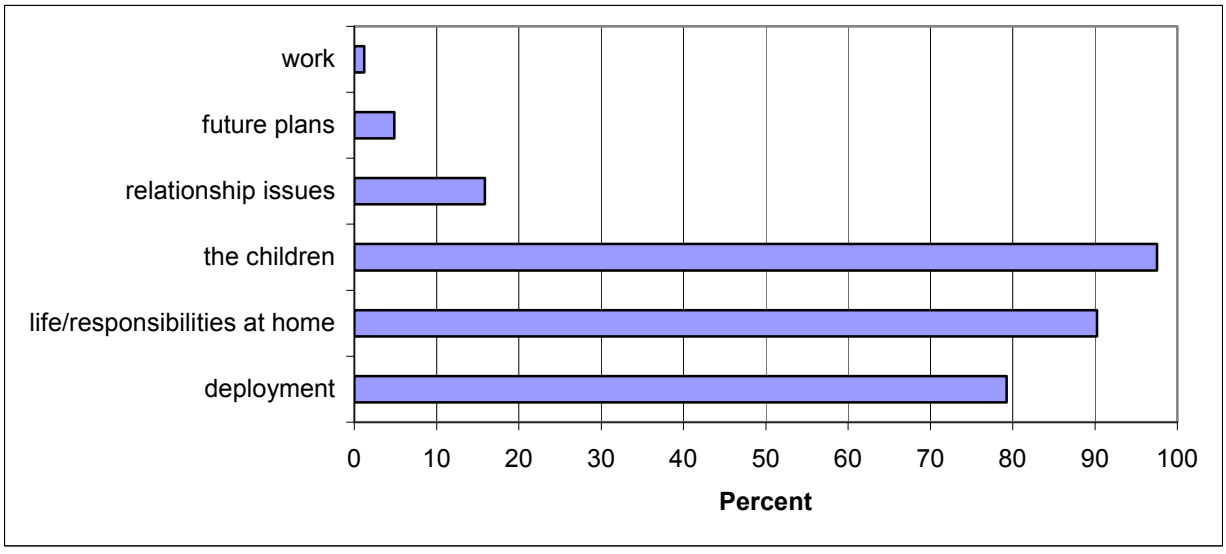


Figure D2. Topics of conversation (parents)



Appendix E: Experience of Deployment- Additional Tables

Table E1. Hardest Aspects of Deployment by Service Component and Deployment Status (n=110)

	Service Component		Deployment Status		
% Listed Response (based on open ended responses)	Active	Reserve	Deployed throughout study period	Deployed only at baseline (August 2007) but returned	Deployed at f/u (November 2007)
Missing activities	50.0	40.0	55.6	36.8	50.0
Feelings about missing parent	67.6	80.0	61.1	78.9	75.0
Feeling misunderstood by other people	0.0	20.0	0.0	5.3	25.0
Listening to home parent	5.9	10.0	5.6	5.3	25.0
Sibling responsibilities	8.8	10.0	11.1	5.3	0.0
Chores	29.4	10.0	27.8	26.3	0.0
Other changes, stress	5.9	20.0	11.1	10.5	0.0

Note: For deployment status analyses, n=55 for those who had experienced a deployment. Half of the sample that participated in the follow-up survey had not deployed in the study period.

Table E2. Hardest Aspects of Parent Return by Service Component (n=110)

	Service Component	
% Listed Response (based on open ended responses)	Active	Reserve
Getting to know parent again	72.7	50.0
Readjustment to life with return parent	54.6	100.0
Dealing with parent stress	18.2	0.0

Table E3. Hardest Aspects of Deployment by Service Component and Deployment Status (n=110)

	Service Component		Deployment Status		
% Listed Response (based on open ended responses)	Active	Guard/ Reservists	Deployed throughout study period	Deployed only at baseline (August 2007) but returned	Deployed at f/u (November 2007)
Family related issues	23.5	21.9	19.1	26.3	50.0
Being a single parent/having to take care of things by self	86.3	81.3	95.2	73.7	50.0
Feelings about spouse/relationship issues	35.3	43.8	33.3	36.8	50.0
Issues with child behavior	45.1	50.0	33.3	36.8	50.0
Finances	17.7	21.9	28.6	15.8	0.0
Other	7.8	3.1	14.3	0.0	0.0

Note: For deployment status analyses, n=55 for those who had experienced a deployment. Half of the sample that participated in the follow-up survey had not deployed in the study period.

Table E4. Hardest Aspects of Parent Return by Service Component (n=110)

	Service Component	
% Listed Response (based on open ended responses)	Active	Reserve
Getting back into the routine	77.4	81.8
Getting re-acquainted with spouse	29.0	13.6
Finances	12.9	40.9
Spouse war experience/health issues	16.1	27.3
Child behavior problems, reconnecting with kids	45.2	27.3
Other	19.4	18.2