Report on the Impact of Deployment of Members of the Armed Forces on Their Dependent Children

October 2010

Department of Defense

Department of Defense

The Impacts of Deployment of Deployed Members of the Armed Forces on Their Dependent Children

Report to the Senate and House Committees on Armed Services
Pursuant to
National Defense Authorization Act for Fiscal Year 2010 Section 571

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EXECUTIVE SUMMARY

Since October 2001, the world in which American military children grow up has been changed dramatically by unprecedented levels of deployment tempo and the increased reliance on Reserve and Guard members. To date, a total of over 2.1 million American men and women in uniform have deployed in support of Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF). Of those Service members, approximately 100,000 — 44 percent — are parents. Of those deployed Service member parents, 48 percent have served at least two tours in Iraq and Afghanistan. Not since the Vietnam War have so many U.S. military families been affected by deployment-related family separation, combat injury, and death. With the U.S. involvement in the conflicts in Afghanistan and Iraq ongoing, there is a deep concern over parental deployment and its impact on the well-being of military children. To better understand the current state of how military children cope with parental deployment, the Department conducted a comprehensive assessment of the impact of military deployment on children based on a review of available studies and survey data from OEF/OIF. Research from previous conflicts and relevant civilian literature were also included in the review.

Key Findings

Below are the key findings from available studies based on OEF/OIF data reviewed in this report:

Children's Coping with Parental Deployment:

- Children's reactions to deployment-related parental absence vary by age, developmental stage, and other individual and family factors. While young children are likely to exhibit externalizing behavior such as anger and attention difficulties, school-age children demonstrate more internalizing behaviors, such as increased levels of anxiety and fear, sensitivity to media coverage, and reduced school performance. While adolescents often take household responsibilities and become more independent, they were more likely to experience declining academic performance, depressive symptoms, and behavioral problems in response to emotional stress.

- Though the focus of recent studies has shifted to older children's adjustment to parental deployment, young children (infants and preschoolers) are still most impacted by parental deployment. Most recent studies have indicated that adolescent girls were more likely to encounter more challenges overall than boys.

- The non-deployed parent/caregiver's psychological health is positively associated with children's successful coping with deployment-related stress. This finding suggests that programs for the non-deployed spouses may indirectly but

powerfully contribute to the well-being of children of the deployed Service members.

- The majority of military children demonstrated a high level of resilience to successfully cope with parental deployments. Despite strong support networks in military and civilian communities, the knowledge and resources to promote resiliency of military families and children are not centrally available.

- The literature on children of war veterans suggested that children of wounded Service members are at risk for emotional and behavioral problems. Longitudinal studies are needed to understand the long-term effects of living with the wounded Service member parents.

- There is no published comprehensive research on the impact of parental death on military children; civilian research on child bereavement has mixed results. Future research is necessary to better understand the trajectory of military children's bereavement over the span of childhood using a longitudinal study design.

- Though recent studies have found the linkage between parental deployment and the increase in child maltreatment, the generalizability of the findings need to be validated with more representative samples.

Family diversity and the impact of deployment on children:

- Despite their increasing presence in the U.S. military, children of dual-military couples and single family parents have not been the primary subject of assessment or research. More data analyses are necessary to understand the unique needs and challenges that children of these subgroups of military families might experience in face of parental deployment.

- There is no systematic research on how factors affecting child adjustment during deployment (e.g., preexisting psychological conditions, single military parents, children with disabilities) interact with deployment-related stress in the process of child adjustment.

Recommendations

A set of recommendations derived from the research and data reviewed in this report are summarized briefly below:

1. **Increase the efficacy of research efforts pertaining to the impact of parental deployment on children.**

1.1 Coordinate among the Services, Office of Secretary of Defense (OSD), other federal agencies, and partnering universities doing similar research to reduce duplication of research efforts and promote collaboration among researchers.

1.2 Create a communication channel or centralized repository for tracking planned research projects, those in progress, and active research solicitations.

2. Address the diversity in military families and other relevant family factors in research to promote a more complete understanding of how military children cope with deployment-related family separation.

2.1 Assess the needs, concerns, and challenges faced by children of non-traditional military families, including single military parents, dual-military couples, and blended families. The effects of maternal deployment should be also investigated as well.

2.2 Systematic research is required to examine how family factors (e.g., children with preexisting psychological conditions, children with disabilities), which were identified as potential risk factors in child adjustment to parental deployments, affect children's coping with deployment-related stress.

Family separation due to deployment is a major life event, which could cause a great deal of stress for military children. Though available published research relies heavily on cross-sectional research, there are promising ongoing studies that will allow us to capture the fluid process of child adjustment to parental deployment over time. The recommendations provided in this report represents how future research in this field should be guided to effectively inform us for the development of policies and programs for the support of military families and children.

BACKGROUND

This report is pursuant to Section 571 of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2010, which requires the Secretary of Defense to submit to the Committees on Armed Services of the Senate and the House of Representatives a report on the result of a comprehensive assessment of the impacts of military deployment on the dependent children of deployed members of the Armed Forces.

1. INTRODUCTION

As the U.S. involvement in the current conflicts in Iraq and Afghanistan has stretched into its ninth year, there is a deep concern about parental deployment and its impact on the well-being of children in American society. In today's U.S. military, as an all-volunteer force, men and women in uniform are more likely to be married and have children. Though there is extensive literature on the effects of parental absence due to changes in the family such as parental divorce, illness, death, and incarceration, little is known about the effects of parental absence created by work requirements. Among work-related parental absence, military deployment stands out due to its unique characteristics, including the frequency, duration, hazardous nature of deployment, and special societal values attributed to military service.

DoD recognized the vulnerable position of military children facing parental deployments and made it a top priority to help enhance their resiliency. To help us better address military children's needs, this report reviews research findings from over 170 studies on the impact of parental deployment on military children and provides recommendations drawn from the findings. To shed light on unique challenges posed by the current conflicts, this report focuses on the recent studies examining the impact of deployment on children whose Service members were deployed to or in support of OEF/OIF. This report also draws upon family demographic data of deployed Service members and relevant findings from the 2008 DoD Active Duty Spouse Survey, managed by Defense Manpower Data Center (DMDC).

Approach to the Assessment

The DoD was tasked with conducting a comprehensive assessment of the impact of military deployment on children and reporting the findings to Congress within 12 months. Within this time line, DoD conducted an assessment using the following three secondary data sources:

- The peer-reviewed academic literature and relevant government reports on the impact of military deployment on children in OEF/OIF.
- Attitudinal survey data from DMDC

- Ongoing research projects

The initial literature search was conducted to systematically understand what we know about the impact of deployment on children by age group and by family composition. The scope of the initial literature search was limited to peer-reviewed academic articles examining the data from OEF/OIF, published between 2003 and 2010. The search was carried out through searches in databases such as EBSCO, JSTOR, PubMed, ProQuest, Ingenta, and other academic online databases, using combinations of the keywords such as "(military) deployment," "family separation," "children of military personnel," "the impact of deployment," "Traumatic Brain Injury," "posttraumatic stress syndrome," "resilience," "military children," "adolescents," "preschoolers," "school-age children," and "psychological conditions."

The initial search identified approximately 40 highly relevant studies published after 2001. Then, the search was expanded to literature with a high level of topical relevancy from previous conflicts and to governmental reports and book chapters. These searches identified approximately 70 articles and reports. The Office of Assistant Secretary of Defense (Health Affairs) also conducted an independent literature search and review for this report.

In addition to the initial search, through the DoD/Department of Agriculture (USDA) Partnership, a team of researchers from the University of Arizona and Pennsylvania State University conducted an additional literature search and literature review for this report. Their search included academic literature and government publications from previous conflicts. These researchers also scanned the grant databases and gathered information about ongoing research in this field. In total, over 170 academic studies and government reports have been reviewed in this assessment.

The assessment team also utilized demographic data and attitudinal survey data from DMDC to provide current demographic data on deployed Service members and their families as well as relevant large-scale attitudinal data drawn from both Active and Reserve component members and their spouses. The demographic data include the number of Service members deployed to OEF/OIF, the frequency and the length of deployment, the age distribution of children of deployed Service members, and the numbers of children of the wounded/injured/ill/fallen and their age distribution. Such demographic data help us comprehend the magnitude of the issues regarding military deployment and children. This report also examined DMDC survey data on special populations of military families, such as single parents and dual-military couples, in which the impacts of deployment on children may well be greater than in military-civilian couples with children. Relevant survey items from the 2008 Active Duty Spouse Survey and the November 2009 Status of Force Survey were analyzed to assess the impact of deployment on children living in different family environments.

In addition to existing literature and demographic and survey data, this report also incorporates on-going research studies to describe the current state of assessment efforts driven by both civilian and military researchers.

Though there are a wide range of psychological health and family programs, which may directly or indirectly mitigate the impact of deployment on military children, this report focuses on a review of available survey data and peer-reviewed academic literature. Assessing the effectiveness of those DoD programs that support the well-being of military children is beyond the scope of this report.

The Organization of This Report

The chapters in this report are organized around the following six topics regarding the impact of parental deployment on children as identified in NDAA 2010 Section 571:

(1) The impact that separation due to the deployment of a military parent or parents has on children.
(2) The impact that multiple deployments of a military parent or parents have on children.
(3) The impact that the return from deployment of a severely wounded or injured military parent or parents has on children.
(4) The impact that the death of a military parent or parents in connection with a deployment has on children.
(5) The impact that deployment of a military parent or parents has on children with preexisting psychological conditions, such as anxiety and depression.
(6) The impact that deployment of a military parent or parents has on risk factors, such as child abuse, child neglect, family violence, substance abuse by children, or parental substance abuse.

Section 571 provides that the report separately addresses findings for each of the following three age groups of dependent children: (a) preschool-age children, (b) elementary-school age children, and (c) teenage or adolescent children. To avoid unnecessary confusion for the readers, this report defines the three age groups as follows:

Age Group	Age Range
Preschool-age children	0 to 5 years old
Elementary-school age children	6 to 12 years old
Teenage or adolescent children	13 to 18 years old

To allow us to include the impact of deployment on infants and toddlers, we expanded the common definition of preschool age children, which usually ranges ages 2 to 5 or 3 to 5, to ages 0 to 5 for this assessment.

Family composition of Service members with children is another reporting element of this report required by law. As required by Section 571, the report discusses findings specific to the following three family compositions: (a) Service member-civilian couples, (b) single parents, and (c) dual-military couples. These groups are defined as follows:

Family Composition	Definition
Service member-civilian couples	Two-parent families with only one parent in the Service
Single parents	Service members who are single parents
Dual-military couples	Two-parent families with both parents in the Service and they are subject to dual deployments

This report concludes with general recommendations that are derived from the findings from academic literature, government reports, and DoD survey data reviewed in the following sections. The recommendations also include the need for future research and assessment to address what is missing in the current research studies and evaluation efforts.

2. Parental Deployment and Military Children: Demographic Overview

This report starts with an overview of the social and demographic characteristics of the U.S. military and deployed Service members. This section also highlights distinctive characteristics of OEF/OIF deployments in comparison with previous conflicts and non-combat/routine deployments.

Characteristics of Military Family Life

Military family life is characterized by unique demands such as separation, risk of injury or death of the Service member, long work hours and shift work, frequent relocation, unique organizational culture and norms, and family separations due to military deployments, unaccompanied assignments, field exercises, and training (Segal, 1986). While overseas residency and frequent moves may bring positively unique experiences into children's lives, some aspects of military family life are also considered stressors that are not often found in the civilian family life. Since Hill's (1949) landmark study of post-WWII family reintegration, family separation due to military deployment has been recognized as a major stressor on family dynamics, parenting, and children's well-being and development (see Jensen, Martin, & Watanabe, 1996; Peebles-Kleiger & Kleiger, 1994; for more recent studies, see Chandra et al. 2010a; Cozza et al. 2005). However, research on military families in previous conflicts has largely focused on spouses, not children. Earlier studies on military children drew a stereotypical and negative portrait of military families and children, with emphasis on higher rates of psychological issues among them in comparison with civilian peers (LaGrone, 1978). Later studies (Morris, 1981; Jensen et al. 1991) did not find any significant differences in the prevalence of psychopathology between military children and civilian peers and questioned the generalizability of the older studies.

Unique characteristics of OEF/OIF Deployment

Combat Deployments vs. Routine Deployments. Military deployments can be categorized into normative/routine deployments and combat/combat support deployments. The former is scheduled, non-combat deployment, which is most often inevitable in the military career, including planned training exercises or missions, peacekeeping operations, and unaccompanied overseas tours of duty. This type of deployments is most likely to have a clear deployment plan, including duration and location. The latter is either combat-support or combat missions, which often have ambiguity and uncertainty in terms of duration, location, or both (Wiens & Boss, 2006). This ambiguous nature of deployment can cause a high level of stress in the family (Boss et al 2003). Consequently, the impact of deployment on children differs between combat deployments and routine deployments.

Multiple and Prolonged Deployment. Through multiple waves of downsizing efforts, the U.S. Military in 2000 was 31 percent smaller than 1990. To meet the sudden increased demands for deployable Service members, the downsized U.S. Military has resulted in sending Service members to Iraq and Afghanistan more often and for a longer period of time. Of the approximately 1 million Service member parents who have ever deployed to Iraq or Afghanistan, 48 percent served at least two tours. Generally, three phases are identified in the course of deployment: pre-deployment, deployment, and post-deployment. The decreased dwell-time and increased frequency of combat deployments, however, led boundaries between the end of one deployment cycle and the beginning of another to be blurred and overlapped. Each phase can cause stress in military families and children, and there are a few widely used models such as "the emotional cycle of deployment" (Pincus et al. 2005), in which the deployment cycle was broken down into five phases to identify warning signs of deployment stress in the family, including children's possible reactions by age, corresponding to different challenges at each stage of deployment.

Reliance on Guard and Reserve Members. The conflicts in Iraq and Afghanistan have also challenged the total force model, the force structure in the All-volunteer force era. Unprecedented numbers of Reserve and National Guard members (called Reserve Component members hereafter) have been activated in the past nine years. This reliance on the Reserve component has shed light on the needs of the geographically dispersed families, who live too far to access resources available on military installations. In civilian communities, in which there is little or no military presence, children of deployed Reserve component members can be physically or emotionally isolated.

Returning Service Members with Severe Wounds/injuries. Advanced medical technologies and safety equipment have made it possible to save wounded Service members' lives that would not have been saved in previous conflicts. Posttraumatic Stress Disorder (PTSD) and Traumatic Brain Injury (TBI) are two invisible injuries that characterize the complexity of contemporary combat wounds. For military children, another significant issue associated with OEF/OIF is how these invisible injuries from which returning deployed Service member parents might suffer impact children's psychological and physical well-being and life trajectories in the long-term.

Continuous Family Communication. Thanks to innovations in network/internet communications technology, Service members and their families back home can make more frequent and instant contacts. Though military families welcomed this change, some researchers have warned that continuous family communication between the deployed Service member and family back home may not always bring positive outcomes in family functioning and job performance of the Service member. Constant exposure to daily family problems could be a source of significant stress and distraction for a Service member in a combat zone (see Ender, 1997; 1998).

In addition to these unique characteristics of deployment in OIF/OEF, social issues surrounding today's American children, such as substance abuse, poverty, and family violence, also come into the equation when addressing the impact of deployment on children. Taken together, findings from studies of previous conflicts and routine deployments should be discussed with caution because they may not be fully generalized to children's adjustment and coping with parental deployment in support of OEF/OIF.

Available DoD Family Programs to Support Military Children

To help families cope with deployment-related challenges, DoD provides a wide array of family support programs and services that address life challenges and promote the readiness of Service members and their families. The majority of programs and services are provided through the Military Services at approximately 300 worldwide installations, tailoring the program to the unique needs of their members.

For example, high quality, affordable military child care programs meet the demands of increased deployments and high operational tempo. There are child development centers worldwide that provide childcare to the approximately 200,000 children (ages 0 to 12) of military personnel who may need child care services. The military Services also offer a wide variety of high quality, age-appropriate school-age and youth programs on and off the military installation. At every U.S. military installation worldwide where the command officially sponsors, Family Advocacy Program (FAP) sponsors and coordinates activities to promote better parenting and child safety and prevent child abuse. As a program to prevent child abuse and neglect in military families, FAP also offers the New Parent Support Program (NPSP), which is a home visitation program for high-risk parents.

Additionally, the military Services have established on-going partnerships with nationally recognized youth development organizations such as the Boys & Girls Clubs of America, USDA 4-H Youth Development, the YMCA and the National Military Family Association. These community-based organizations offer well-established, research-based programs that are affordable and easily accessible for Service members and their families. Partnerships with local school systems also provide support to children and youth with a deployed family member.

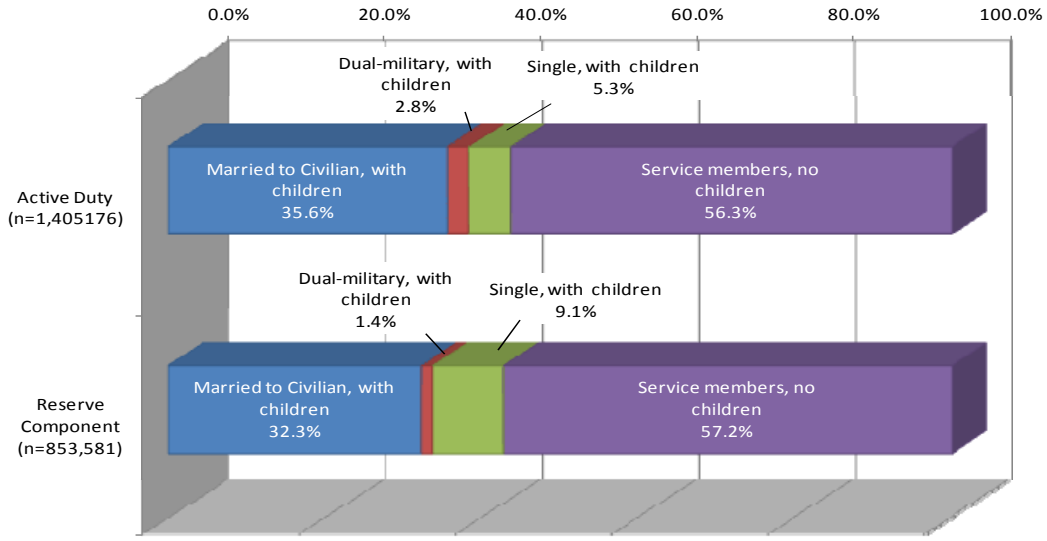
Other programs and services ─ addressing broader issues and including those that address the needs of members and families of the geographically dispersed ─ are supported by the Office of Secretary of Defense (OSD) and other partners. One of the OSD programs for military children is the Child and Youth Behavioral/Military and Family Life Consultant (CYB-MFLC). DoD provides military children with non-medical counseling services through the CYB-MFLC Program, in which licensed child and youth behavioral specialists help military children cope with their normal reactions to stressful/adverse situations associated with deployment and reintegration. In 2010, CYB-MFLCs

supported 424 summer camps; in addition, 263 CYB-MFLCs supported military children attending DoD Child Development and Youth Centers in the U.S. and overseas. CYB-MFLCs also supported military children in 295 military connected schools during the 2009-2010 school year. These family programs help provide stability and safe environments for military children before, during, and after parental deployment.

Demographic Characteristics of Military Families and Children

Entering the fourth decade since the inception of all-volunteer force in 1973, the demographic characteristics of today's U.S. military increasingly resemble the family demographics of American society ─ higher percentages of married, dual-career couples, and children living in single parent households. In this section, we summarize demographic compositions of deployed Service members and their family members to approach the unique characteristics of deployments to OIF/OEF and how these characteristics are correlated with the impact of deployment.

Figure 1. Military Families with Children by Component (Active Duty & Reserve Component)

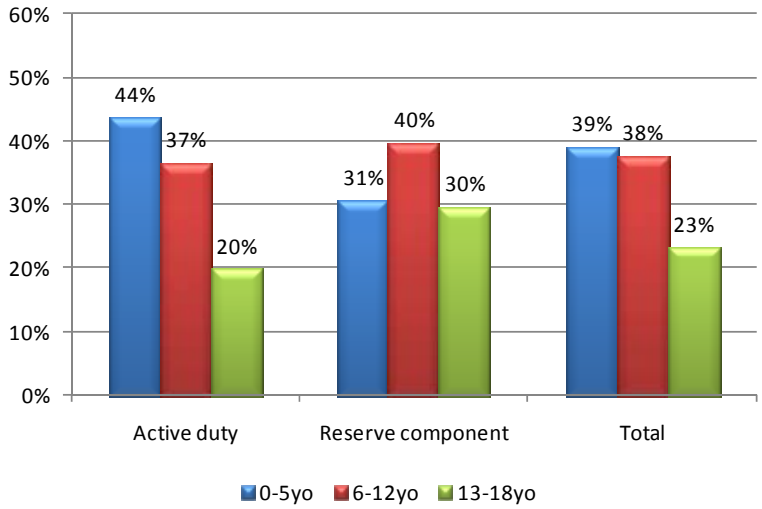


Data source: The Office of The Deputy Under Secretary of Defense for Military Community and Family Policy (in press). *The 2009 Demographic Report: Profile of the Military Community. Data modified to only include minor dependents.*
Note: Family status of Service members with no children include single with no children; married to civilian with no children, and dual-military with no children.

As shown in Table 1, a little over 40 percent of Active Duty members (43.7 percent) and of Reserve component members (42.8 percent) have children, with an average of two children per family. The percentages of parents in both Active Duty and Reserve component have been unchanged over the past five years. There are a total of 1.8 million children (Active Duty: 1,175,055; Reserve component: 650,549) of the U.S. military personnel (The Office of the Deputy Under Secretary of Defense for Military Community and Family Policy: ODUSD (MC&FP), in press).

Figure 2 displays the distribution of children of both Active duty and Selected Reserve members by age group in 2009. The majority of Active Duty children are ages 0-5, and accounted for 44 percent, while school-age children (ages 6-12) accounted for 40 percent of Reserve component children. The age distribution of children to Service members deployed to Afghanistan and Iraq resembles the age distribution of the general population of military children shown in Figure 2.

Figure 2. Age Distribution of Military Children Age 18 or younger.

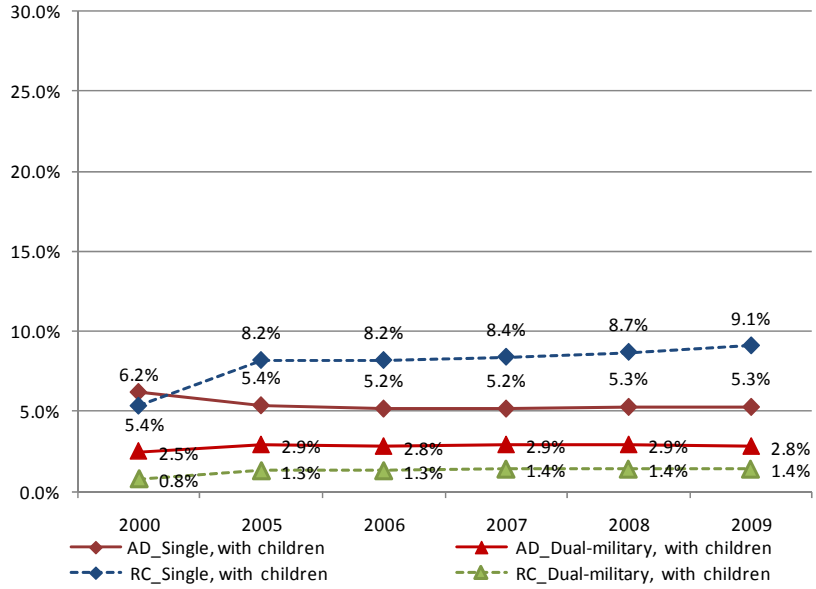


Data source: The Office of The Deputy Under Secretary of Defense for Military Community and Family Policy(DUSD(MC&FP)). (in press). *The 2009 Demographic Report: Profile of the Military Community.*
Note: Data modified to only include minor dependents.

Dual-Military Couples with Children

Of all Active duty members, 39,647 (2.8 percent) were married to another Active duty member or to a Reserve or Guard member. According to DMDC demographic data, women had disproportionally higher percentages of dual-military marriages –almost half (48 percent) of married military women are in dual-military marriages, compared to only seven percent of married military men who are in dual-military marriages.[1] The vast majority of dual-military marriages (83.1 percent of Active duty dual-military marriages; 76 percent of

Figure 3. Percentages of Dual-Military Couples and Single Parents Trends: 2000-2009 by Service Component.



Data source: ODUSD (MC&FP). (in press). *The 2009 Demographic Report: Profile of the Military Community.*

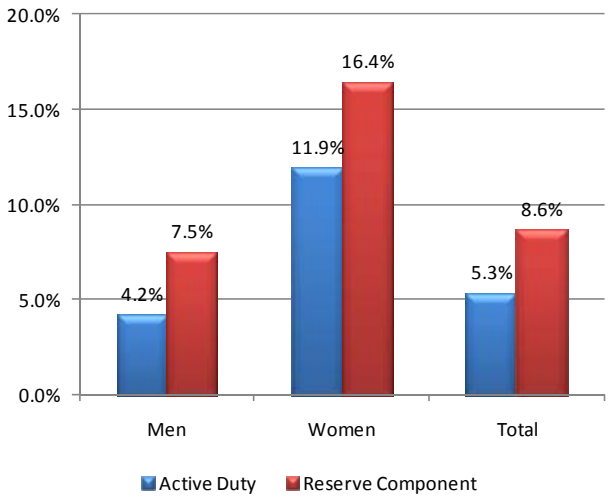
[1] Data source: DMDC Active Duty Marital Status Report (As of September 2009).

Reserve component dual-military marriages) involve enlisted members in both Active duty and Reserve components. Of all married Active duty members with children, 5 percent were in dual-military marriages with children. This percentage decreased to 2.4 percent for Reserve Component members (ODUSD (MC&FP), in press).

Single Military Parents

According to U.S. Census Bureau, there are 74.5 million children ages 0-17 in the United States in 2009. One in four (26 percent) American children lives with only one parent (Federal Interagency Forum on Child and Family Statistics, 2010). While the rates of single parents in the U.S. Military Services are far smaller than in the civilian population, single parenthood has some significant organizational implications as the Services increasingly rely on single parent Service members in combat operations.

Figure 4. Percentages of Single Parents by Gender and Service Component.



Data source: ODUSD (MC&FP) (in press). *The 2009 Demographic Report: Profile of the Military Community.*

There were approximately 146,000 single military parents in 2008, accounting for about 6.6 percent of the total force. The percentage of single military parents was higher in the Reserve Component (8.7 percent) than in the Active duty Component (5.3 percent). Over the past ten years, the number of single parents in the Active duty component has declined, while the number of single parents in the selected Reserve members has increased over the last decade by 60 percent (ODUSD (MC&FP), in press). Though the gender difference is not as evident as the civilian population, as shown in Figure 4, female Service members were at least twice as likely to be single parents, compared with male Service members, in both Active Duty and Reserve components. Of Service members who ever deployed to OEF/OIF, single parents make up 17 percent.[2]

Children of the Fallen, Wounded, Injured, and Ill

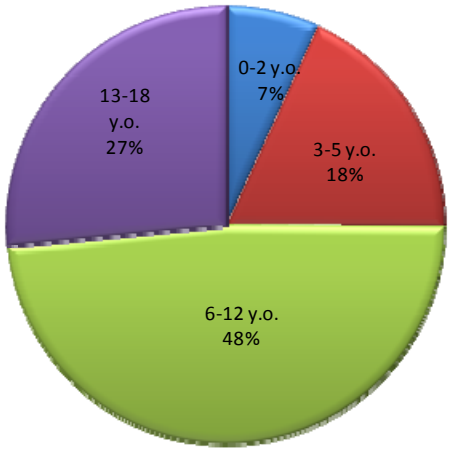
Since the onset of Operation Enduring Freedom (OEF) in October 2001, more than 37,000 were wounded in action; 48,000 were injured or fell ill and required medical air transports. More than 5,400 American Service members lost their lives in OIF/OEF; over

[2] Data source: DMDC (Data as of July 2010).

3,700 military children age 18 years old and younger have lost their Service member parents. [3]

Of these children, almost half (48 percent) are elementary school-aged children; one in four children are five years old or younger (see Figure 5).[4] In total, more than 41,000 children experienced their deployed Service member parents wounded, injured, or ill.

Figure 5. The Age Distribution of Children of the Fallen Service Members (N=3,714).



Data Source: Defense Manpower Data Center (Data as of 13 March 2010).

These numbers are limited to dependent children of the fallen, wounded, injured, or ill, which do not include other impacted children such as young siblings or other young relatives. Taking this into consideration, the number of children impacted by the deaths, wounds, injuries, and illnesses of the deployed Service members could be much larger.

Summary

In today's technologically advanced and highly complex operational environments, it takes years for Service members to complete required training and gain sufficient experiences in their occupational specialties. In general, military personnel in an all-volunteer force are more career-oriented and serve for a longer period of time, and more likely to represent the population structure of the larger society, compared with conscription-based forces. As a result, Active duty members are more likely to marry and have a child while serving in the military. Reflecting the demographic diversity in today's American society, the individuals with minor dependent(s) joining the Service, single military parents, and dual-military couples with children are increasingly common in the U.S. military. This diversity of today's military families has implications for policy development, program implementations, and assessment of the well-being of military children facing family separation due to parental deployment.

[3] Data source: DoD Personnel and Military Casualty Statistics. The data is as of 03 April 2010. The number of fallen Service members includes both hostile and non-hostile deaths.
[4] Data source: DoD Personnel and Military Casualty Statistics. The data is as of 03 April 2010. The number of fallen Service members includes both hostile and non-hostile deaths.

3. THE IMPACT OF PARENTAL DEPLOYMENT ON CHILDREN

Family separation due to deployment is a major stressor for military children. Deployment brings the absence of a parent figure in the lives of military children (Levai, Kaplan, Ackermann, & Hammock, 1995). Parental absence/loss invokes emotional uncertainty and ambiguity in the family. This sense of ambiguity introduced by loss or absence of a family member is termed "ambiguous loss" by Boss (1999), and later applied to research on parental deployment on adolescents (Huebner, Mancini, Wilcox, Grass & Grass, 2007: Heubner, Mancini, Bowen, & Orthner, 2009). Heubner et al. (2007) note: "A family member may be physically absent but psychologically present, or a family member may be physically present but psychologically absent; both of these situations thwart people's desire for certainty and may become an obstacle in healthy patterns of development" (p.112).

At the same time, each deployment-related family separation is unique and idiosyncratic circumstances associated with a given separation can be more significant factors for a child's successful coping with parental deployment (Watanabe & Jensen, 2000). Earlier studies have found that deployment-related stress might adversely affect children's academic performance (Hillenbrand, 1976; Yeatman, 1981), depressive symptoms (Dansby & Marinelli, 1999; Jensen, Martin, & Watanabe, 1996), elevated level of anxiety (Dansby & Marinelli, 1999), interpersonal relationships with others, and behaviors (see McGonagle et al., 1990; Seiffge-Krenke, 2000; Jensen, Martin, & Watanabe, 1996; Kelley, et al., 2001). This section reviews key research findings on the impact of parental deployment on children primarily during OEF/OIF, focusing on children's developmental stages and diversity in family composition.

Relevant Results of DoD Survey Data on the Impact of Deployment on Children

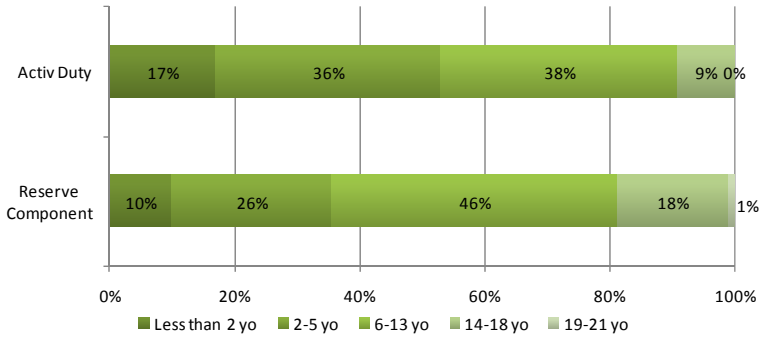
In 2008, DMDC conducted two large-scale surveys for military spouses: the 2008 Survey of Active Duty Spouses (ADSS 2008) and the 2008 Survey of Reserve Component Spouses (RCSS 2008). Approximately 13,000 active duty spouses completed ADSS 2008 and 13,000 reserve component spouses RCSS 2008 respectively, for weighted response rates of around 30 percent respectively. Both surveys included items about the impact of deployment on themselves and their children.

Spouses were asked to identify the age of the child who was most impacted by their Service member's deployment. This question was asked of the spouses whose Service members had been deployed in the past three years and who had a child at home during deployment (see Figure 6). For Active duty families, the average age of child most impacted was 6 years old; for Reserve component families, it was 8 years old. For Active duty families, preschoolers (36 percent) and school-age children (38 percent) were reported as most impacted; for Reserve component families, school-age children were

reported as most impacted. Since children of Reserve component members are more likely to be older than those of Active duty members, this result is not surprising.

The surveys also asked spouses about how well the most impacted child coped with the deployment (see Figure 7). In both surveys, a little over half (53 percent for Active duty; 55 percent for Reserve component) of spouses felt that their children coped well or very well with parental deployment, while nearly a quarter (23 percent for Active duty; 22 percent for Reserve component) felt that their children coped 'poorly' or 'very poorly.' No significant age differences were observed.

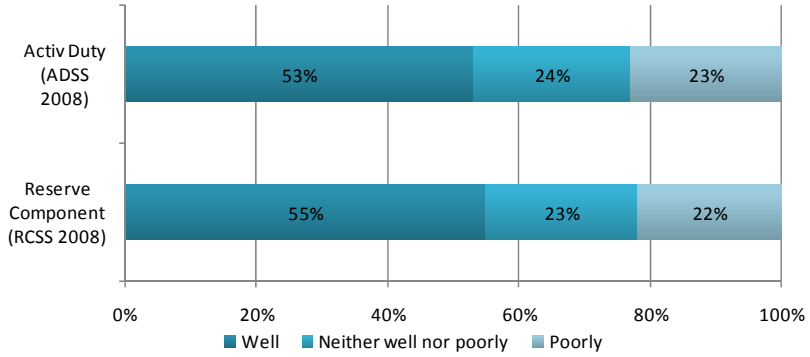
Figure 6. Age of Child Most Impacted by Service Member's Recent Deployment (Data from ADSS 2008 and RCSS 2008).



Data Source: DMDC, the 2008 Survey of Active Duty Spouses; the 2008 Survey of Reserve Component Spouses.

Using the data from ADSS 2008 and RCSS 2008, we examined age differences in the most impacted child's reactions to the most recent deployment. Spouses were asked to assess children's behavioral changes in response to the most recent deployment of their Service members, using the following three choices: "decreased," "no change," and "increased." Detailed results by age group are provided in Appendix B. Key findings are summarized below:

Figure 7. How Well Has the Most Impacted Child Coped with Your Spouse's Deployment? (Data from ADSS 2008 and RCSS 2008).



Data Source: DMDC, the 2008 Survey of Active Duty Spouses; the 2008 Survey of Reserve Component Spouses.

<u>Age Differences in Children's Reactions to the Most Recent Deployment</u>

Children of Active Duty Members

Spouses reported:

- Approximately two thirds (64 percent) of all children showed increased levels of fear and anxiety, while older teens (ages 14-18) were less likely to have increased levels of fear and anxiety (50 percent).

- Overall, children's closeness family members increased (48 percent) during deployment: infant to preschoolers (age 0-5) are most likely to have increased closeness to family members, compared with older children (39 percent for 6-13 years old; 30 percent for 14-18 percent).

- Children demonstrated decreased academic performance: 54 percent of adolescents (ages 14-18); 41percent of school-age children (ages 6 to 13).

- Children in all age groups exhibited increased problem behaviors:
  - 57 percent of children had increased problem behaviors at home.
  - 37 percent of children had increased problem behaviors at school.

Children of Reserve Component members

Spouses reported:

- Almost three quarters (73 percent) of school-age children experienced increased levels of fear and anxiety, while older teens were less likely to have increased levels of fear and anxiety (55 percent).

- Nearly three quarters (72 percent) of school-age children showed increased degree of pride in having a military parent. At the same time, two-third (64 percent) of them exhibited higher levels of distress over discussions of the war.

- While demonstrating increased level of independence (44 percent), a little over half of adolescents (53 percent) experienced academic problems during deployment.

- Compared with older children, infant and preschoolers (63 percent) were most likely to become more close to family members and less independent (34 percent).

- Children of Reserve component members in all age groups, like their peers with Active Duty parents, exhibited increased problem behaviors:
  - 50 percent of children had increased problem behaviors at home.
  - 34 percent of children had increased problem behaviors at school.

In this assessment, we also looked at the data from the recent Status of Force Surveys, in which randomly sampled Active or Reserve component members are asked to answer various questions about their professional, personal, and family lives. Periodically, the Status of Force Surveys include items on Service members' children's reactions to their most recent deployments. Compared with the surveys for spouses, such as ADSS 2008

and RCSS 2008, the percentages of respondents (Service members) who reported any of the behavioral changes are substantially smaller in the Status of Force Surveys. This is understandable considering the fact that the questions were asked about children's behavioral changes during their most recent deployment, in which they were physically away from home for an extended period of time. While the data from DMDC surveys for spouses can provide more accurate data on behavioral changes of married Service members' children, there is no alternative means of data collection to assess behavioral changes exhibited by children of single parent Service members. Further data analyses using DMDC survey data will be necessary to effectively address the family diversity in family policies and program development within DoD.

Both ADSS 2008 and RCSS 2008 also asked about factors positively helping children's coping skills. Spouses were asked to rate the importance of a number of factors in their children's ability to cope with the most recent deployment. Results are listed in Table 1. For Active duty children, geographic stability was considered very important, while this item was not included in RCSS 2008. Spouses of Reserve component members reported that gaining support from family members and positive reactions of caregivers or school teachers to the deployment were very important for their children's coping during deployment. The non-deployed parents were aware that support from family, neighbors, and the community in which they live play an important role in successful child adjustment to parental deployment.

For both Active duty and Reserve component, communication with a deployed parent was less important for adolescents (ages 14-18) than younger children. For Active duty, geographic stability was very important for 6-13 year olds (90 percent), but less important for 0-5 year olds (83 percent).

Table 1. Top Five Factors for Helping Children Cope with Parental Deployment.

Active Duty (ADSS 2008)	Reserve Component (RCSS 2008)
Non-deployed spouse's Ability to maintain a stable household routine (93%)	Non-deployed spouse's Ability to maintain a stable household routine (94%)
Communication with deployed parent (91%)	Communication with deployed parent (91%)
Temporary reunions with deployed parent (87%)	Non-deployed Spouse's support for the deployment (86%)
Geographic stability during deployment (86%)	Family members support for the deployment (84%)
Non-deployed spouse's support for the deployment (82%)	Caregiver/teacher reaction to the deployment (78%)

Data Source: DMDC, the 2008 Survey of Active Duty Spouses; the 2008 Survey of Reserve Component Spouses.

These survey results suggest that we need to pay close attention to the linkage between children's social, emotional, and cognitive development and their reactions to parental deployments. Large-scale DMDC surveys allow us to assess the differences in child adjustment to parental deployment by age, sex, and other demographic variables. In most

studies, including questions for or drawing samples from children across all age groups is almost impossible considering the wide range of cognitive and intellectual maturity that children possess at different developmental stages. Most studies focus on a specific age group of children, which is not adequate to draw a conclusion on which age/developmental group of children is most affected.

Children's Reactions to Deployment by Age

Children's reactions to parental deployment can differ by a number of individual factors (temperament, age, and developmental stage) and family factors (the length of the deployment, family composition, the total time of Service member being absent, financial conditions, the neighborhood in which the family live, relocation, and other family stressors) (see Barker and Berry, 2009). In general, children's reactions and adjustment to parental deployment are largely based on their age and developmental stages (Amen et al., 1988; Murray, 2002; Stafford and Grady, 2003). Simultaneously, children's reactions to parental deployment show a strong linkage with family functioning during deployment, the non-deployment parent's responses in particular (Watanabe & Jensen, 2000). Child outcomes investigated in the recent five years using the OEF/OIF data are listed in Table 2.

Table 2. Child Outcomes in Recent Studies on the Impact of Deployment on Children by Age Group.

Child Outcome	Age		
	Preschool	Elementary School	Adolescents
Externalized behaviors (Aggression, behavioral problems at home or at school; defiant behaviors)	Chartrand et al. (2008) Orthner & Rose (2005) Barker & Berry (2009)	Chandra et al. (2010) Flake et al. (2009) Lester et al. (2010)	Chandra et al. (2010a) Chandra et al. (2010b) Heubner & Mancini (2005) Heubner et al. (2007) Lester et al. (2010)
Internalized behaviors (depressive symptoms, anxiety, withdrawal, sadness)	Barker & Berry (2009) Orthner & Rose (2005)	Chandra et al. (2010) 11-17yo Orthner& Rose (2005) Lincoln, et al. (2010)	Wong & Gerras(2010) Heubner &Mancini (2005) Chandra, et al. (2010a) Lester et al. (2010)
Academic performance		Lincoln et al. (2010) Flake et al. (2009)	Chandra et al. (2010a) Chandra et al. (2010b)
Peer relationships			Wong & Gerras (2010) Chandra et al. (2010a)

Note: Only published research studies examining data from OEF/OIF related deployments are included in this table.

Infants and Preschoolers: Attachment formation through the parent-child interactions is a critical milestone in a young child's socio-economic development. This attachment relationship is a key determinant for later social competence and psychological adjustment of the child (O'Connor, 2002 cited in World Health Organization, 2004). A series of studies by Sroufe and his associates (Sroufe & Fleeson, 1986; Sroufe, 2002) reported that children who were able to form the secure attachment relationship with the

caregiver as an infant are likely to be more socially competent and well adjusted in later life. In contrast, children who did not form the secure attachment relationship with the caregiver are more likely to experience social and behavioral problems later (see Field, 1987; Lyons-Ruth, Aspen, &Epacholi, 1993; Sroufe, & Fleeson, 1986; Sroufe, 2002). Physical separation from a familiar caregiver may cause a major disruption for a young child to develop the secure caregiver-child relationship; therefore, deployment-related family separation is potentially threatening to a young child's positive health and development if no support or interventions are provided.

The earlier literature on military deployment-related family separation indicated that young children are more vulnerable to the effects of family separation due to deployment than older children (Jensen, Martin, & Watanabe, 1996; Watanabe & Jensen, 2000). A more recent study of Army families has found that children ages 0 to 5 coped least well with deployment-related parental absence, compared with older children (Orthner & Rose, 2005). Not being able to express their feelings and experiences freely in words, young children tend to express their feelings about parental deployment in externalizing behaviors (e.g., aggression, hyperactivity, and problematic behaviors), rather than internalizing behaviors (e.g., depressive symptoms, withdrawal, and anxiety)(see Jensen, Martin, & Watanabe, 1996; Kelley, et al., 2001; Pierce, Vionkur, & Buck, 1998; Rosen, Teitelbaum, &Westhuis, 1993). Young children also exhibit changes in moods (Kelley, et al., 2001; Pierce, Vionkur, & Buck, 1998), attention seeking, sadness, reduced appetite, and sleep problems (Rosen, Teitelbaum, &Westhuis, 1993).

Recent studies supported these findings from previous studies. Chartrand et al. (2009) conducted a study with both parents and childcare providers of children 18 months to 5 years of age attending on-base child development centers(n=169) at a large Marine base with a high ratio of deployment. One third (33 percent) of children had a deployed parent. Results indicated that after controlling for the non-deployed parent's depressive symptoms, stress, and other socio-demographic variables, children ages 3 to 5 with a deployed parent exhibited significantly higher levels of externalizing behaviors (aggression and attention difficulties) than their peers with non-deployed parents (Chartrand et al., 2008). Though the sample size is small, it is noteworthy that this study used childcare providers as proxy respondents as well as non-deployed parents and that the independent effect of parental deployment on young children was found after controlling for the non-deployed parent's depressive symptoms and stress. This finding was supported by Barker & Berry's (2009) study, which indicated that young children with a deployed parent experienced behavioral problems after controlling for socio-economic variables. Barker & Berry (2009) also noted that young children also experienced problematic attachment behaviors such as seeking attention, clinginess, and repeatedly asking where the absent parent was.

School-Age Children: Compared with preschoolers, school-aged children, who have increased social and cognitive maturity, are more likely to exhibit internalizing behaviors,

such as fear of the deployed parent's safety and sensitivity to media coverage and rumors of war (Orthner & Rose, 2005), elevated levels of anxiety (Lester et al., 2010), external behaviors (Lester et al., 2010), and reduced school performance (Lincoln, Swift, & Shorteno-Fraser, 2008; Engel, Gallagher, & Lyle, 2006). In a study of children ages 3-12 during Operation Desert Storm, more than half of children were reported to have experienced sadness and behavioral problems at home. However, deployment was found to mildly increase children's psychological symptoms, but most often the increase did not reach a clinical level of the symptoms (Jensen, Martin, & Watanabe, 1996). A recent study with school-age children (ages 5-12) of deployed parents during OEF/OIF, almost one third (32 percent) of children with a deployed Service member were found to be "high risk" for having problems with psychosocial functioning. Internalizing behaviors were more commonly observed than externalizing behaviors. The reported level of psychological distress experienced by children was twice as high as the national normative scores (Flake, et al, 2009).

As children reach school age, there seem to be more pronounced gender differences in the reactions to parental deployments. Studies from previous conflicts have found boys experience more problems than girls in academic performance (Carlsmith, 1964), and behavioral and psychological problems (Crumley & Blumethal, 1973; Hillenbrand, 1976; Jensen, Lewis, & Xenakis, 1986; Jensen, Martin, & Watanabe, 1996; Jensen & Shaw, 1996; Pederson, 1966; Yeatman, 1981). The gender effect, however, might not have been captured thoroughly in these earlier studies because of the research design or the characteristics of the sample. In the past, deployed parents were predominantly fathers, which may provide a possible explanation for boys being more vulnerable and experiencing problems during a parent's deployment (Blount, Curry, & Lubin, 1992; Watanabe & Jensen, 2000). Recent studies have found that girls experience more issues than boys related to parental deployment (Chandra et al., 2010; Lester et al., 2010). These mixed results on gender differences in a child's reactions to deployment warrant further research using longitudinal designs throughout the deployment cycle and over the years.

Adolescents: Adolescence is a period in which a child is establishing independence and a sense of identity while still being emotionally and financially dependent on him or her parents. This ambivalent state between childhood and adulthood makes adolescents vulnerable to certain kinds of deployment-related stress. Recent studies have found depressive symptoms (Heubner et al., 2007; Orthner and Rose, 2005), decreased academic performance (Chandra et al., 2010a; Orthner and Rose, 2005), and peer relationship problems (Chandra et al., 2010a; Finkel, Kelley, & Ashby, 2003) in military adolescents who experienced parental deployment.

Adolescents may be more resourceful with coping strategies than younger children (Watanabe & Jensen, 2006). Research has found that adolescents cope with family separation due to deployment better than younger children (Jensen, Martin, & Watanabe, 1996; Orthner and Rose, 2005). Adolescents are probably more subject to significant

changes in their daily routines during deployment. Research suggested that adolescents tend to take on more responsibilities in the household, while their extracurricular activities and social activities with peers are often significantly scaled back (Huebner & Mancini, 2005; Wong & Gerras, 2010). In a study of children ages 11-17 and their non-deployed caregivers, researchers found that adolescents, girls in particular, reported more difficulty in school performance, family relationships, and peer-relationships than younger children in the study (Chandra et al., 2010a).

Though joyous, a deployed parent's return can be very stressful for adolescents because having a deployed parent back often means significant readjustment of daily routines, to which families, including children, became accustomed during deployment. Compared with younger children, adolescents are more likely to experience stress in the reintegration process because their roles and responsibilities in the family tend to change more significantly during deployment. Adolescents are mature enough to take over some of roles and responsibilities in the household during deployment, and these changed family dynamics need to be renegotiated when the Service member parent returns from deployment (Mmari et al., 2009). Chandra et al. (2010) found that adolescents experienced more difficulties as the total months of parental deployment in the past 3 years increased. In a focus group study of military adolescents, Heubner & Mancini (2005) found that some adolescents reported increased stress, depressive symptoms, and poor school performance, while the majority of adolescents demonstrated resiliency and took on more household responsibilities. They also found that adolescents felt a great deal of fear for the deployed parent's safety. On the other hand, the intellectual and emotional maturity of adolescents gives them a better perspective on parental absence and the reasons for the deployment and functions as a moderator to mitigate the deployment stress (Wong & Gerras, 2010).

Paternal deployment and maternal deployment

As of September 2009, women account for 14.3 percent of the Active duty component and 17.8 percent of the Reserve component.[5] Though the number of deployed women continues to rise, little is known about how the maternal absence affects children differently from the paternal absence. Among the few studies, Applewhite and Mays (1996) found the gender of the deployed military parent made no difference in the level of children's emotional and social problems during Operation Desert Storm. On the other hand, a Navy study showed that children with deployed mothers were more likely to score higher levels of internalizing behavior than Navy children with non-deployed mothers or civilian counterparts, though this did not suggest any higher probability of clinical symptoms in children with deployed mothers (Kelley et al., 2001). Another study of deployed Air Force mothers with children during Operation Desert Storm found children of these deployed mothers experienced a number of psychological and social issues during deployment. Children's adjustment to maternal deployment was

[5] Data Source: The 2009 Demographic Profile.

significantly associated with mothers' ability to provide child care, the type of deployment (combat zone or elsewhere), and the level of changes in children's lives. Nevertheless, there were no long-term, negative effects of maternal deployments on children being observed (Pierce, Vinokur, & Buck, 1998). Ternus (2009) conducted an exploratory study on the deployed female Service members and their adolescent children during the current conflicts. She reported that maternal absence due to deployment created significant changes in family routines and parenting, which may be unique to maternal absence from the home. Systematic research on deployed mothers and their children is warranted.

Factors for Mitigating the Detrimental Effects of Parental Deployment

Family resilience: Though our attention tends to be drawn to negative impacts of parental deployments on children, there is a growing body of literature on families' strengths and coping skills developed as a result of family separation due to deployments. This positive growth and adaptation that families exhibit in response to a stressful life event is termed "resilience" (Wiens & Boss, 2006; see also Boss, 2002, 2005; Cozza et al., 2005). Resilience is a process in which the individual successfully adapts to the situation with significant adversity or trauma through interactions with environmental factors such as community environment, the population, and risk factors (Fergus & Zimmerman, 2005; Walsh, 2003). Due to a great degree of variability introduced by environmental factors, an individual may not be always resilient in every adverse or traumatic event (Luthar, 2006).

Resilience in children is closely linked to the following three key elements: child's personal characteristics (e.g., easy temperament and cognitive functions), positive parent-child relationships, and community-level support (e.g., neighborhood, schools, communities) (Condly, 2006; Huebner & Mancini, 2005; Luthar, 2006; Aisenberg & Herrenkohl, 2008). Recognizing that eliminating aggravating factors does not always provide positive outcomes, research on military children must focus on what positively contributes to children's successful coping with parental deployment.

Psychological health of non-deployed parent: One of the important determining factors for child adjustment to parental deployment is the non-deployed parent's adjustment to deployment and psychological health. Research from previous conflicts consistently shows that the psychological health of the civilian parent is positively associated with child adjustment to deployment (Pedersen, 1966; Jensen et al., 1996; Kelley, Herzon-Simmer, & Harris, 1994; Rosen et al., 1993). OEF/OIF studies have supported this finding. The non-deployed parent's psychological health is positively correlated with the level of children's adjustment to deployments (Chandra et al., 2010a; Heubner & Mancini, 2005; Huebner et al., 2007; Flake et al., 2009). Lester (2010) found that the non-deployed parent's psychological symptoms were strongly associated with children's depression, externalizing behaviors, and internalizing behaviors. At the same time,

parent report of children's mental and emotional states is not always accurate. A non-military study suggested that parents' diagnosis without professional guidance or training and their own mental health could skew the parental report of child mental health issues (Youngtrom, Izard, & Ackerman, 1999). Wong & Gerras (2010) also found that parental report of child adjustment to deployment was more pessimistic than the child's self report.

Children's perception of war: Earlier study suggested that how family members interpret the meaning of deployment is a powerful determinant for their attitudes and stress coping skills during deployment (Segal, Segal, & Eyre, 1992; Bloom, 1993). In recent studies, a positive interpretation of parental military Service and a belief that America supports the war contribute to children's ability to cope with parental deployment (Houston et al., 2009; Wilcox, 2007; Wong & Gerras, 2010). Adolescent children of deployed National Guard members (ages 11 to 15) attributed positive meanings to their experience of having the Service member deployed (Wilcox, 2007).

Family living environment: Family living environment is also likely to mitigate the adverse effect of deployment on children. Supportive environments surrounding children, including extended family members, school, neighbors, and local community can mitigate the anxiety and stress of children of deployed Service members (Cozza, Chun, & Polo, 2005). More recent studies also reported that families living in military housing reported significantly fewer challenges compared to their peers living in non-military rental housing (Chandra et al., 2010a; Wong & Gerras, 2010).

Non-traditional Military families and Child Adjustment

As unpredictable and repeated combat-related deployments became common place in the current conflicts in Iraq and Afghanistan, single military parents and dual-career military couples experienced difficulty playing primary caregiver roles for their children. Deployment is particularly stressful for dual career and single parent families due to difficulty making child care arrangements (Huffman & Payne, 2006; Kelley, 2006). However, no studies have examined the experience of children of single parent Service members or those of dual-military couples in the face of parental deployment. Though we tend to assume that stressors associated with parental deployment would be simply amplified for these children, there needs to be more research studies on children of non-traditional military families (Kelley, 2006).

Children of Single Military Parents. Single parents in the military may experience greater role strain and role conflict in fulfilling work and family demands compared with single parents in the civilian work places (Wright, 1989). Single military parents have to balance their military careers with family life while managing challenges associated with military family life and single parenthood simultaneously (Kelley, 2006). Older literature

has found that work predictability and family support policies in the Service were positively associated with successful family adaptation of single parents in the military (Bowen, Orthner, & Zimmerman, 1993). Though researchers has examined single parent Service members since the 1980s (Bowen & Orthner, 1986; Bowen, Orthner & Zimmerman, 1993; Wright, 1989), there are very few recent studies on this subject, particularly in the context of deployment.

In preparation for deployment, Service members must complete a Family Care Plan, including childcare arrangements for their children. Parents of Service members are more likely than any other family members to be asked to provide care for their grandchildren or take care of grandchildren full-time for an extended period of time (Bunch, Eastman, &Moore, 2007; Cozza et al., 2005). However, some grandparents can be physically or psychologically overwhelmed by their primary caregiver role. In an interview study with 23 custodial grandmothers raising their grandchildren due to parental deployment, most of the grandmothers reported that childcare responsibilities negatively affected their social life and health status (Bunch et al., 2007). Though based on a convenience sample, this finding yields significant implications for the well-being of children who live with non-parental caregivers during parental deployments and for children of Reserve and National Guard members who are more likely to be single parents than Active duty members.

In recent years, some military family support programs have become available to grandparents and other family members who care for dependent children of deployed Service members. However, it is unclear what proportion of these extended family members is aware of the resources and benefits available to them and the dependent children of Service members in their care. DoD must continue its effort to reach out to extended family members who care for military children and ensure their access to available resources and services.

Children of Dual Military Couples. When both parents are in the Service, both parents can be subject to deployment at the same time and the likelihood of having one parent deployed doubles when both parents are in the Service. Little is known about the unique issues that children of dual-military couples might face in part because it is difficult to identify sufficient number of children of dual-military couples and conduct research on their experience in the context of deployments. There has been no research study focusing solely on children of dual-military or single military parents and their adjustment to parental deployment. Dual-military couples are exposed to both dual-career challenges and military career-specific challenges. They have to manage long work hours, separation from family, and physical danger unique to military training and operations, while raising children together (Martin & MaClure, 2000). With a relatively small number of dual-military couples with children (Active Duty component: 2.9 percent; Reserve component: 1.4 percent), it would be difficult to locate and recruit them for a research study. Nevertheless, studies specifically designed to address unique issues

that children of dual-military parents or single military parents are needed to understand this population.

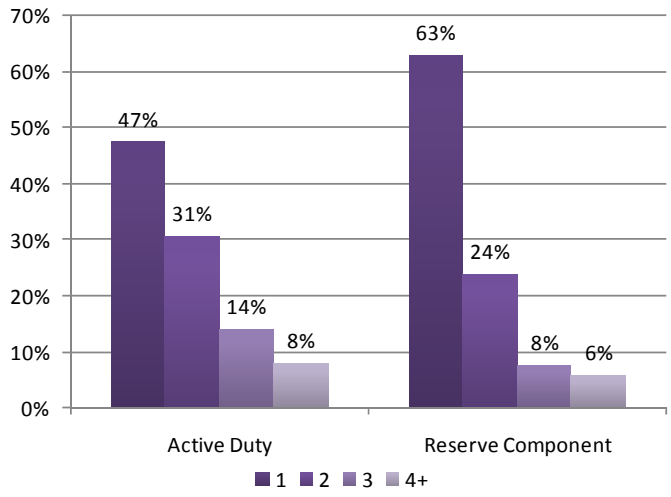
The Impact of Multiple Parental Deployments on Children

As shown in Figure 8, one in five deployed Active Duty members with children (21 percent) have deployed three times or more. Repeated and prolonged deployments are a distinctive characteristic of OIF/OEF. This section describes key research findings on the impact of multiple deployments of Service members on their children. Generally, children are more likely to experience adjustment issues as parental separations gets longer (Jensen, Martin, & Watanabe, 1996; Orthner & Rose, 2005; Chandra et al., 2010a; Engel, Gallagher, & Lyle, 2006). Jensen, Martin, & Watanabe (1996) also found that the longer the deployment became, the more lasting negative consequences were observed in children. However, very few studies have examined the impact of multiple combat deployments on children because not since the Vietnam War have there been repeated and frequent deployments of Service members to combat zones.

Recent studies have shown no association between the number of deployments and a child's level of upset (Chandra et al., 2008; Wong & Gerras, 2010). Wong & Gerras (2010) reported that many children had difficulty reporting how many times their Service member parents had been deployed in their lifetime. Instead of the number of deployments, these studies found that the cumulative length of parental deployments, such as the total months of deployment-related absence, is more likely to adversely affect children's well-being during deployment. The cumulative length of deployments was significantly associated with negative child psychological outcomes – higher level of anxiety (Chandra et al., 2010; Lester et al., 2010) and depression (Lester et al., 2010).

Parents' perception of children's adjustment to deployment can be more negative than what children actually perceive. An Army War College study found no cumulative effects of repeated deployments on Army adolescents (ages 11 to 17). Comparing the perceptions among Service members, spouse, and adolescent children, the adolescents reported a decreased level of stress as the number of parental deployments increased, while Service member parents reported an increased stress level of their children at each deployment (Wong

Figure 8. Deployed Personnel with Children by Component and Number of Deployment.



Data Source: DMDC (Data as of 30 April 2010)

& Gerras, 2010). Nonetheless, military adolescents felt the absence of deployed parents most when they experience significant life events. In the same study, over half of adolescent children (56 percent) reported that they coped with deployments "well" or "very well," while a significantly lower percentage of Service members (36 percent) rated their children's coping with deployments "well" or "very well." It appeared that adolescents had learned new coping methods from previous deployment experiences and had come to understand parental absence and what deployments meant as they matured.

Predictability of deployments might mitigate the impact of multiple deployments on children. Kelley et al. (1994) studied the reactions of Navy children age 5-13 years old and compared their reactions to their fathers' routine deployment and to their deployment to Operation Desert Storm. Children whose fathers were deployed for Operation Desert Storm showed no decline in internalizing and externalizing behaviors, while children whose Navy fathers were absent for routine deployments showed improvement in those behaviors over time. Although the sample was small, future research should pay attention to how different types of military deployments impact children's well-being.

Research in Progress

Within the past 12 months, DoD has launched at least three large-scale research studies to understand children's well-being facing parental deployment in order to better serve their needs (see Table 3). Though not captured here, each Service conducts its own research studies focusing on Service-specific topics in addition to these DoD-wide studies. Among the studies listed in Table 3, all except for the 2010 April Status of Forces Survey of Active Duty Members (SOFS-A) use a longitudinal study design. Longitudinal designs provide more conclusive findings pertinent to military children's well-being before, during, and after parental deployment. Data and results of these studies will contribute to the knowledge of how military children adopt to parental deployment and how their reactions and coping skills change over time.

Table 3. Large-Scale Research Efforts to Study the Impact of Deployment on Children.

Title	Sponsor/Research Organization	Timeline (data collection)	Objectives
Military Family Life Project	DoD Military Community & Family Policy; Defense Manpower Data Center (DMDC)	First wave: May 2010; second wave: One year from first wave.	This longitudinal survey invites 100,000 spouses across the Services and covers stress, usage of support programs, impact of deployment on spouses and children. Data is partially compatible with the Active Duty Spouse Surveys in 2006 and 2008. See 2010 June SOFS-A below for detail on paired-couple sub-sample.
The 2010 June Status of Forces Survey of Active Duty Members (SOFS-A)	Defense Manpower Data Center (DMDC)	June 2010	DMDC fields SOFS four times a year with Active Duty members across the four Services. In the June 2010 SOFS-A, 40,000 Service members whose civilian spouses were invited to the first-wave of MFLP survey will be included in the sample. This will help us understand the impact of deployment on spouses and children from Service members'

Title	Sponsor/Research Organization	Timeline (data collection)	Objectives
			perspectives.
Millennium Cohort Study (Family component)	DoD Center for Deployment Health Research	June 2010	The Millennium Cohort Family Study specifically focuses on the impact of deployments on psychological and physical health of military families, including children and spouses. The survey was sent to 10,000 spouses across DoD.
Longitudinal Assessment of Family Readiness	RAND sponsored by Defense Centers for Excellence (DCOE) for Psychological Health and TBI	TBD	RAND will conduct DoD-wide survey of 4,500 families. In addition to Service members and spouses, children 11 years of age or older will be interviewed. This study is designed to better understand the impact of deployments on psychological well-being of families of deployed Service members. This longitudinal survey study will collect data from the same families over 36 months.

There are a number of small secondary data analysis studies using DMDC survey data. As stated earlier, DMDC regularly conduct large-scale surveys with Service members and their families in both Active Duty and Reserve components. Civilian and military scholars are currently conducting various projects using DMDC survey data to address the current issues surrounding children of deployed Service members.

Summary

DMDC survey data demonstrated that overall the majority of military children in both Active duty and Reserve component cope with deployment-induced family separation well, while military children exhibited increased levels of fear and anxiety, decreased academic performance, and problem behaviors at home and at school during the most recent parental deployment. Further data analyses using those DoD-wide survey data are necessary to effectively address the family diversity in family policies and program development within DoD.

While it is easy to label a certain age group of military children as “at-risk” or “vulnerable” based on the findings from a single study, most studies of military children, as reviewed in this section, only focus on specific age groups or developmental stages and their findings are not sufficient to make such conclusions. Collecting comparable data across different developmental stages is methodologically challenging because children’s behaviors are markedly different at different developmental stages, and therefore difficult to assess using the same measures or assessment tools. Instead of identifying “at-risk” groups, we must identify varying needs of children at different stages of development and provide adequate support or intervention programs to address those needs.

Research consistently found that children's ability to cope with deployment-related stress varies by developmental stage, age, and gender. At the same time, the psychological condition of non-deployed parent/caretaker plays an important role in children's successful adjustment to parental deployment. Parental report of a child's adjustment to deployment can reflect the mental health condition of the reporting parent and it might not be always accurate. The review of literature also revealed that the total months of deployment-related parental absence, rather than the frequency of deployments, was significantly associated with higher levels of stress in military children. However, very little is known about the long-term effects of parental deployment on children's emotional, social, and cognitive development. These findings suggest that longitudinal study designs are necessary to accurately assess the changing nature of children's adjustment across the deployment cycle and throughout childhood. Several large-scale longitudinal studies are underway to address these understudied aspects of child adjustment to deployment.

There have been very few studies focusing on family diversity and its impact on child adjustment to parental deployment. Despite their increasing presence in the U.S. military, children of dual-military couples and single military parents have not been the primary subject of assessment or research. These families are more likely to experience significant changes in their living environment and daily routines than children in traditional military families with one Service member with civilian spouse. As the proportion of women continues to increase in the U.S. military, assessment of the impact of maternal deployment in comparison with paternal deployment is also required. Future research should also assess the unique needs and life challenges that children of Reservists and Guard members may experience facing parental deployment. Their experiences can be remarkably different due to their geographical and cultural isolation from the military community.

As repeatedly brought up in recent civilian reports on OEF/OIF deployments (Johnson et al., 2007; Institute of Medicine, 2010), available empirical studies on the impact of deployment on children from previous conflicts and from OIF/OEF share the following shortcomings. First, many empirical studies reviewed in this report relied on small, convenience samples, which does not closely represent the target population, could threat the generalizability of the findings. Other than DoD sponsored research projects, limited research funding and difficulties in gaining access to military families who may volunteer for research studies are the most common reasons for researchers to take a better-than-nothing approach when conducting research on military children. Second, reliance on cross-sectional research designs does not allow researchers to examine the time-sensitive effects of parental deployment on children. In this report, the findings from the studies with potential external validity or external validity issues were included but discussed with a note on the sample. These limitations are not the target of criticism; instead, these are the statement of realities that both DoD and civilian researchers in this field have been facing due to fiscal and practical challenges over the decades.

Though the majority of military children demonstrated their resilience to cope well with frequent and prolonged deployments of their parents, there is no centralized resource of scientific evidence for what works for military children to promote their resiliency and related skills. Through the partnership with the Land Grant University system, DoD is establishing a clearinghouse to equip helping professionals with best practices and easily accessible professional communities and knowledge portals to better serve the needs of military children of both Active and Reserve component members. This clearinghouse will help us identify the most effective means to promote resiliency and resiliency-related skills, which will allow policy makers to provide effective evidence-based programs and implement policies that afford stability and support to families and children of deployed Service members. It might also be necessary to identify the neighborhood and local community factors (e.g. local culture, community-based resources) that mitigate or exacerbate deployment-related stress.

Ongoing studies may answer some of the research questions stated above as they complete data collection and analyses. Though this section advocated continuing conducting methodologically robust research, the efficiency of research should be achieved as well. Coordination among the Services, OSD, other federal agencies, and partnering universities doing similar research is critical. A communication channel or a centralized repository for tracking planned research projects, those in progress, and active research solicitations will help maximize data compatibility and promote research collaboration as well as reduce the burden on military families as subjects of multiple studies. This should also help increase the efficiency as well as minimizing duplication of research efforts.

4. RETURNING WOUNDED WARRIORS AND CHILDREN

Since October 2001, over 37,000 Soldiers, Sailors, Marines and Airmen have sustained physical wounds in action and 48,000 have been injured or fell ill and airlifted in OEF/OIF.[6] Combat injuries can include but are not limited to musculoskeletal injuries, spinal cord injuries, disfigurement, amputations, burns, traumatic brain injuries (TBI), and visual impairment. In addition to physical injuries, Service members may return from war with psychological injuries. Post-deployment screening results have indicated that risk for mental health problems in 17 percent of Service members returning from OIF and OEF, with 12 percent reporting symptoms of Post Traumatic Stress Disorder (PTSD) (Milliken, Auchterlonie & Hoge, 2007). A six-month follow-up study of these veterans revealed that there were increases in mental health risk from 17 percent to 27 percent (17 percent with PTSD symptoms) among Active duty Service members and from 18 percent to 35 percent (24 percent with PTSD symptoms) among National Guard and Reserve members. The above data clearly indicate that a significant number of Service members are coping with traumatic stress symptoms and that members of the Reserve component are particularly vulnerable.

These injuries, whether they are physical or psychological, impact the entire family of Service members. The nature of the impact on children and families is only just beginning to be understood. This section discusses the research on the impact of parental war-related traumatic stress and combat injury on children. Available studies from OEF/OIF are described, but most of the existing literature is based on studies of Vietnam veterans' families.

Parental War-Related Traumatic Stress and Its Impact on Children

Civilian literature has indicated that parental emotional distress constitutes an important risk for poor adjustment in children (Beardslee, 1984; Lester, Stein, & Bursch, 2003; Rutter, 1966). Stressful life events in the family are often associated with higher rates of mental health symptoms and negative outcomes for children (Coyne & Downey, 1991; Beardslee & Wheelock, 1994; Dohrenwend & Dohrenwend, 1981). Evaluations of the risk of parental emotional distress for the child have shown that the psychosocial disturbance within the family, especially the child's exposure to parental irritability, aggression, and hostility, are most predictive of poor child adjustment (Rutter & Quinton, 1984). Then, how do parental combat experiences and PTSD affect child functioning, parenting, family functioning, and family violence?

Child functioning: To date, no published studies have examined the impact of parental war-related traumatic stress on child functioning following OEF/OIF deployment, and only one unpublished study on the topic could be located. Herzog (2008) surveyed

[6] Data source: DoD Personnel and Military Casualty Statistics. The data is as of 03 April 2010. The number of fallen Service members includes both hostile and non-hostile deaths.

members of an Army National Guard brigade with children ages 2-18 and their spouses. Among the 54 Guard members who responded to the survey, nine percent reported clinical levels of PTSD symptoms. Children whose Guard member-parents reported a high level of PTSD symptoms displayed significantly more emotional problems, such as withdrawal, depression, anxiety, and somatic complaints. The same pattern was observed for spouses' secondary traumatic stress—children of spouses who reported a high level of secondary traumatic stress symptoms also displayed more emotional problems. Despite some limitations in data collection methods, this study has significant implications as an exploratory study of OEF/OIF examining child functioning proximal to Service member parents with PTSD.

There has been a long interest in the intergenerational transmission of trauma from veterans to their children (see Dekel & Goldblatt, 2008). Adolescent children of Vietnam veterans with PTSD have reported exposure to parental PTSD symptoms, including parents' flashbacks, indications of intrusive thoughts, emotional numbing, avoidance of war-related stimuli, and hyper vigilance (Dan, 1995; Del Valle & Alvelo, 1996). The largest study of the intergenerational transmission of trauma is based on interviews conducted from 1986 to 1988 as part of the National Vietnam Veterans Readjustment Study (NVVRS) (Kulka et al., 1990a; 1990b), a survey of a representative national sample of veterans from the Vietnam era (1964-1975). From this sample, 374 female spouses/partners of male veterans and 65 male spouses/partners of female veterans were interviewed about family relationships and child behavior for children ages six to 16 years.[7] Results showed that children of male veterans with PTSD were more likely to have behavioral problems than the children of male veterans without PTSD (Jordan et al., 1992). Emotional and behavioral issues are more pronounced among children of male veterans who participated in unauthorized, violent conduct involving non-combatants during combat; these children were twice as likely to demonstrate clinically significant problems (Rosenheck & Fontana, 1998). This relationship remained significant after controlling for the veteran's lifetime history of psychiatric illness and substance abuse, as well as recent violent behavior, combat exposure, and PTSD symptoms. For female veterans in NVVRS, the relationship between PTSD and child behavior problems was present but not significant (Gold et al., 2007). The gender difference may be due in part to less statistical power resulting from the female veterans' smaller sample size and lower PTSD rates (6 percent for females vs. 33 percent for males).

A Vietnam War study found that parental PTSD is related to both internalizing and externalizing behaviors in children age 4 to 16 years (Caselli & Motta, 1995). Another study reported that parental PTSD was associated with somatic complaints and aggression in girls and with anxiety in boys among children age 6 to 11 years (Parsons, Kehle, & Owen, 1990). In the same study, among children age 12 to 16 years, parental

[7] Note: Spouses/partners of veterans with PTSD were overrepresented among interviewees; rates of PTSD described in the studies on children and families are not representative of Vietnam veterans as a whole.

PTSD was associated with depression and withdrawal in girls and with somatic complaints and hyperactivity in boys. Despite the above results suggesting that children of veterans with PTSD exhibit signs of distress, no published data suggests that children of veterans with PTSD actually develop PTSD themselves. In addition, very little is known about the impact on very young children. These factors are likely to be important and should be researched further.

Parenting and Parent-Child relationships: Parental PTSD may negatively impact parenting, which can cause adverse effects on parent-child relationships. Male Vietnam veterans with PTSD reported higher levels of parenting problems and less satisfaction compared to those without PTSD (Jordan et al., 1992). Avoidance and numbing symptoms, in particular, had the strongest relationship with parenting problems (Samper, Taft, King, & King, 2004). Among female Vietnam veterans, higher PTSD symptoms severity was associated with lower parenting satisfaction (Gold et al., 2007). In particular, increased hyper arousal and avoidance/emotional numbing symptom clusters were significantly correlated with decreased parenting satisfaction.

Parental PTSD may disrupt the parent-child relationship. Based on OEF/OIF veteran report, PTSD diagnosis was associated with "children acting afraid or not acting warm toward the veteran" (Sayers, Farrow, Ross, & Oslin, 2009). Similarly, adolescent children of Vietnam veterans perceived significantly more problems with their fathers than adolescent children of nonveterans (Dansby & Marinelli, 1999). Emotional numbing symptoms are most strongly related to relationship problems with children (Ruscio, Weathers, King, & King, 2002). It may be that the emotional numbing limits the parent's desire and capacity to interact with children in a meaningful way.

Family functioning: Child development, behavior, and functioning are inextricably linked with family functioning, which can be impacted by parental PTSD. A study showed that male Vietnam veterans with PTSD reported poorer family adjustment compared to those without PTSD (Jordan et al., 1992). Among female Vietnam veterans, higher PTSD symptoms severity was associated with lower family adaptability and cohesion (Gold et al., 2007). Among male and female Desert Storm veterans, hyper arousal/lack of control and withdrawal/numbing symptoms were related to family adjustment (Taft, Schumm, Panuzio, & Proctor, 2008). Anger and depressive symptoms have also been shown to impact family functioning in veterans with PTSD (Evans, McHugh, Hopwood, & Watt, 2003). Taken together, PTSD may affect these parents' capacity to interact in a warm, responsive manner and to calmly manage conflict in the family. Some studies have found that parental PTSD is associated with increased rates of child abuse in military families (Gibbs et al., 2007; Rentz et al., 2007). The relationship between parental PTSD and family violence will be discussed in Section 7.

Parental Combat Injury

To date, one small cross-sectional study has assessed the impact of parental combat injury as a result of OEF/OIF on children and families (Cozza et al., 2010). Spouses of combat injured Service members (N = 41) who were hospitalized for severe injuries were interviewed using a semi-structured clinical interview. Spouses reported significant disruption to family life as a result of their partner's injury. Most prominent was the separation of children from parents during the hospitalization of the Service members: two-thirds of children lived away from their parents. The overwhelming majority of the non-deployed parents (86 percent) reported that their children appeared to be distressed and exhibited behavioral changes and emotional difficulties. In addition, 76 percent of spouses reported spending much less time with their children; 52 percent of spouses indicated that their children's schedules were severely disrupted. Almost one-third (31 percent) of spouses indicated that the injury led to a change in their discipline strategies. Findings also suggested that the degree of family disruption following the injury (e.g., change in discipline, less time with parent) as well as pre-injury family distress were related to child and family distress immediately after the injury of the Service member parent. More research is needed to elucidate the effects of parental combat injury on children.

TBI has been called the "signature injury" of OIF/OEF. A small number of studies have addressed the impact of TBI on children and civilian families. Research suggests that the non-injured parent assumes a high caregiving burden (Verhaeghe, Defloor, & Grypdonck, 2005) and is at high risk for depression and anxiety (Kreutzer et al., 2009, Ponsford et al, 2003). A civilian literature review on the impact of TBI on family suggested that the parents with head injuries are at high risk of treating their children poorly or unintentionally neglecting them (Perlesz, Kinsella, & Crowe, 1999). In a study relying on retrospective non-injured parent report, children from TBI families are more often acting out and experience emotional problems following the injury (Pessar, Coad, Linn, & Willer, 1993). Elevated levels of emotional and behavioral difficulties were related to compromised parenting (i.e., lack of appropriate child monitoring, emotional and physical neglect, or positive support and warmth) in both the injured and non-injured parent as well as depression in the non-injured parent. In qualitative studies, children have reported feelings of loss and grief at the change in the injured parent (Butera-Prinzi & Perlesz, 2004) and a sense of isolation (Charles, Butera-Prinzi, & Perlesz, 2007). However, one study found no difference between children with a parent whose TBI occurred before the child's birth parent and those with non-injured parents (Uysal et al., 1998). This finding suggested that adjustment to the changed parent is most distressing to children. The following TBI factors potentially relate to the impact of TBI on children: Severity, chronicity, and stability of TBI symptoms; pre-existing family functioning and relationships before TBI occurred; child's developmental level and sex; emotional and material resourcefulness of the family (cohesion, adaptability, conflict within family, and available resources; and degree of disruption to routine, residence, and household composition (Verhaeghe, Defloor, & Grypdonck, 2005; Urbach, & Culbert, 1991).

In a focus group study with 14 families of the combat injured, participants unanimously expressed high distress among all family members (Cozza, Schmidt, Guimond & Feerick, manuscript in preparation). Families reported ongoing anger, anxiety, shame, and sadness as well as increased risk taking behaviors (e.g., excessive alcohol consumption, prescription drug abuse, reckless driving, and compulsive spending) particularly in the Service member, but occasionally in other family members as well. In many cases within this sample, family roles were disrupted, as some Service members with TBI remained impaired and unable to resume full parental and household responsibilities. Children were often given adult responsibilities; strained relationships between parents and children were also reported. Adolescents, in particular, struggled to remain "normal" teenagers during a time when many families needed them to act as adults. Many families struggled with communication issues, such as how to explain the injury and behavioral changes of the injured parent to children. Although individuals could clearly articulate concerns within the focus group context, most reported reluctance to discuss their current challenges with their family members. With regards to health care, non-injured parents expressed a need for more communication with medical personnel and greater involvement in the rehabilitation process as well as health care services for themselves and their children.

Research in Progress

***The Needs of Children and Families of Combat Injured*:** Uniformed Service University of Health Science Professor Dr. Stephen Cozza and his colleagues are conducting a longitudinal assessment of the impact of combat injury on children and families. This study is funded by the Congressionally Directed Mandated Research Program (CDMRP). The aims of the study are to:

1. Identify the immediate impact of parental combat injury on children and families;
2. Assess the progressive impact of injury on child, parent and family function;
3. Determine the appropriateness of developing intervention strategies for this population.

The study is a longitudinal design comparing families of combat-injured Service members (CI group) and non-injured service members (NI group) across a 12-month time-frame. The CI group will be comprised of 200 injured Service members and their spouses with at least one child between the ages of three and 18 years recruited from Army medical centers within the first three months of hospitalization. The NI group will be comprised of 200 active duty non-injured combat veterans with comparable combat exposure and demographic characteristics and their spouses with at least one child at ages 3 to 18 recruited within three months of returning from deployment. The initial assessment will include self-report questionnaires and, for the CI Group, record review of

a semi-structured interview currently used at clinical sites. Consenting parents and assenting children ages 6 to 18 years will complete additional questionnaires. Follow up assessments will be completed 6 and 12 months after the initial assessment. Data collection for this study is expected to begin in summer 2010.

FOCUS-CI: A Preventive Intervention with Children and Families of the Combat Injured: In addition, Dr. Cozza's research team is conducting another CDMRP-funded study to assess the efficacy of an intervention for combat injured families. The intervention, FOCUS-CI, is an adaptation and combination of an intervention to address deployment related family stress (Families OverComing Under Stress: FOCUS) and a model of collaborative care management for combat injured Service members (CI). The aims of the study are to:

1. Determine the short and long-term efficacy of FOCUS-CI as a preventive intervention;
2. Examine the interactive effects between intervention/Standard of Care conditions and injury and family characteristics in order to optimize and refine therapeutic approaches for individual families;
3. Evaluate perceived satisfaction and helpfulness of the intervention by participating family members and health care providers.

Two hundred forty (240) families of seriously injured Service members will be recruited and randomly assigned to either the FOCUS-CI or Standard of Care groups. Intervention participants will take part in a health provider-lead program designed to help families address the uncertainty and distress following a combat injury. Families will be assessed using a variety of measures for up to 24 months after enrollment.

Summary

In sum, the literature on functioning of children of war veterans suggests children of wounded Service members are at risk for emotional and behavioral problems. This pattern is consistent across veteran, spouse, and child report. However, most of the studies on the impact of parental PTSD use samples of Vietnam veterans and were conducted more than 10 years after the conflict ended. It is likely that the majority of children in these studies were born after the war ended. Further research is needed to understand the impact of parental PTSD across time, particularly for children born prior to the onset of the parent's PTSD. The generalizability of the findings from research on Vietnam veterans is hampered by their cross-sectional designs and limited examination of child age and gender effects. Risk factors impacting children include parental numbing and withdrawal, poor parental satisfaction, diminished family functioning, and, in some cases, the presence of family violence. These factors suggest possible areas for intervention. Research on the impact of combat injury is very limited. Civilian literature

on parental TBI suggests that distress can evolve to longer term emotional and behavioral difficulties, particularly if effective parenting is disrupted.

Longitudinal studies are needed to understand the short and long-term impact of parental PTSD and combat injury on children and families. In particular, there has been little known about very young children of Service members with PTSD and combat injury. Further research is necessary to address how PTSD and combat injury impact child development and attachment over time and what factors contribute to risk and resiliency in the family. Treatment programs to address problems in children and families affected by parental PTSD and combat injury need to be developed based on assessment results of The effectiveness of existing treatments and optional modalities of treatment (i.e., individual, parent training, and family therapy). Preventive interventions are also needed to minimize disruption to child development and functioning. For a first step, researchers need to assess the effectiveness of existing preventive interventions to meet the families of the wounded, injured, and ill.

5. THE IMPACT OF DEATH OF DEPLOYED PARENTS ON CHILDREN

The purpose of this section is to review the research on the impact of parental death on military children. Children who lose their parent in combat experience a sudden and profound life change. Despite the growing interest in this field, there is no research related to child bereavement in military population. Therefore, this section reviews relevant findings from civilian bereavement research.

Children's Grieving and Child Development

Children's cognitive development plays a key role in the grief response (Worden, 2004). For a child to fully understand parental death, he or she needs to be able to comprehend the concepts of time, transformation, irreversibility, causality, and concrete operation (Polombo, 1978, as cited in Worden, 2004). Younger children are more likely than are older children to believe that death is avoidable, not universal, in the distant future, reversible, and temporary. Younger children also tend to incorporate more magical thinking about the death of the loved one, such as the possibility that the deceased family member will someday magically be brought back to life. A child's understanding of death may be influenced by extraneous factors, such as his or her life experiences, personality, and temperament. Due to the fact that children's capacity to understand loss changes profoundly as they cognitively and emotionally develop, grieving should be considered a "trajectory," in which children reinterpret the parental death throughout childhood (Schultz, 1999).

Family death impacts children of all ages, from infants and toddlers to teenagers. Although children do not understand death in the same way as adults, it is not true that they have less of an emotional response. Children are likely to be powerfully affected by the deaths of loved ones, but do not grieve in the same manner as adults. Typical behaviors of grieving adults include crying, sad expressions, solemn clothing, and subdued voices. In contrast, a child's expression of grief is much more likely to be unfocused, including playing, talking, questioning, and observing (McCown & Davies, 1995). While many children may express feeling sad, cry or become more withdrawn, others will express their emotions through behaviors that may be developmentally regressed, reverting back to earlier behaviors.

Specifically, infant and toddlers (0-2 years of age) may show loss of speech or diffuse distress. Preschoolers (3-5 years of age) are apt to respond with eating, sleeping, bowel, and bladder dysfunctions. Strong feelings of sadness, fear, and anxiety can occur, but these feelings are not persistent, instead reemerge from time to time. School-age children may become phobic or hypochondriacal, withdrawn, or pseudomature, and school performance and peer relations often suffer. Adolescents, like adults, run the gamut in expressing bereavement, ranging from behavioral problems, somatic symptoms, and erratic moods to stoicism. Adolescent boys losing a parent may engage in delinquent behavior, whereas girls may become sexually active for comfort and reassurance

(Dowdney, 2008). Behavioral disturbances and depressions are common at all ages of bereaved children. Although the surviving parent may underestimate his or her child's sadness, interviews of children and adolescents themselves reveal rates of depressive episodes at least as high as those in bereaved adults (Milotz, 2008).

Gender effects have been reported, with girls exhibiting more internalizing symptoms and boys exhibiting more externalizing symptoms and higher rates of overall psychological difficulties (Dowdney, 2000). However, other studies have not found similar gender effects. Although child age impacts the expression of grief symptoms, there is not currently any evidence of different levels of disturbance based on child age (Dowdney, 2000). Grief-related symptoms are expressed in age-specific ways (e.g., separation anxiety in preschoolers and guilt in older children), while there is little evidence that older or younger children are more or less strongly affected by parental death. Oltjenbruns (2007) also notes that cultural or community-specific interpretations of death impact children's understanding and expression of grief.

The Impact of Parental Loss on Short- and Long- Term Child Functioning: Research suggests that bereaved children are at increased risk for social and psychological issues such as depression, psychological problems, social withdrawal and conduct problems (Baker, Sedney, & Gross, 1992; Berlinsky & Biller, 1982; Cournos, 2001; Lin et al., 2004; Weller, Weller, Fristad, & Bowes, 1991). On the other hand, other studies have not found any significant difference in support of these findings (Kessler et al., 1997). Acute grief reactions are expected and observed almost universally among children through the first year after parental death. Such reaction is the normal grieving process when one experiences the loss of an important relationship (Cohen, Mannarino, & Deblinger, 2006). Grief that lasts longer has the potential for later development of significant psychiatric disorders, such as clinical depression, anxiety, and PTSD (Prigerson & Jacobs, 2001; Worden, 1996). However, very few studies have tracked bereaved children beyond two years. One of the few examples is the Harvard Bereavement Study, in which 125 school-aged children were studied for two years following parental death. In this study, the researchers found that most of the significant differences between the bereaved and non-bereaved groups did not become obvious until approximately two years after the death, indicating that there is a possible delayed or long-term effect of grief on children (Worden and Silverman, 1996; Worden, 2004).

A recent study by Brent et al. (2009) used a longitudinal design to follow 176 bereaved children and 168 non-bereaved children over the course of 21 months. This study reported enduring negative effects including depression, alcohol and substance abuse as well as high rates of anxiety and functional difficulties in the bereaved group. Those who experienced parental death due to suicide or accidents were more likely to report depression symptoms in the assessment nine months following the parental death. The authors note that there may be a critical time period shortly after the parental death in which interventions may prevent or minimize the likelihood of developing depression.

Self-esteem, family cohesion, social support, coping play a key role in improving the long-term outlook for bereaved children's psychological well-being (Brent et al., 2009; Sandler et al., 2003). The gender of the deceased parent also affects child adjustment after the loss. The loss of a mother tends to create more significant life changes and result in more negative psychological outcomes such as anxiety, acting-out behavior, and lower self-esteem and self-efficacy (Worden, 2004; Worden & Silverman, 1996).

An emerging construct in the research literature is termed "Childhood Traumatic Grief" (CTG) and highlights the potential impact of a sudden, unexpected and traumatic death of a loved one on children (Melhem, Walker, Moritz, & Brent, 2008). CTG differs from normal patterns of grieving both by the intensity of the grieving symptoms and the nature of the loss (parental death by trauma such as homicide, suicide, or combat injury). A diagnosis of CTG includes PTSD like symptoms including hyper arousal, psychological distress, and avoidance, which greatly complicate the mourning process (Pynoos, 1992). In addition, intense separation distress manifested as longing and searching for the deceased, loneliness, and preoccupation with the lost parent occurs. Parental memories (both positive and negative) can become traumatic triggers to these upsetting symptoms. Children may also avoid identification with their lost parent as a means of protecting themselves, especially when deaths were violent or painful (Pynoos, 1992). While many symptoms of CTG and PTSD overlap (CTG is marked by the presence of partial or fully developed PTSD), these two conditions are distinct from each other (Cohen et al., 2002). A recent investigation evaluating the construct of CTG in a cohort of 132 bereaved children and adolescents found that CTG remained a distinct clinical entity, while PTSD and depression are significantly correlated (Brown et al., 2008). These authors also reported relationships between CTG severity and the level of trauma associated with the parental death, as well as the emotional reaction of important adults (such as the surviving parent) to the death.

Military Children and Parental Death

Unique Characteristics of Parental Death in the Military Family: Children who lose military family members during wartime are similar to other grieving children in many ways. On the other hand, there are certain unique aspects to military family loss. For example, children may have adjusted to the long-term physical absence of the deployed Service member parents prior to a death. In such a case, the continuing physical absence of the deceased parent may hinder the process in which children accept the permanence of the loss.

Those bereaved families living on military installations will likely be surrounded by community support and interest. Nonetheless, a number of transitions can add stress to the already traumatized family following the death of a Service member. By law, family members of Service members who died in the line of duty may stay in government

housing without charge for 365 days after the Service member's death or continue to receive the housing allowance for that time period. Dependent children of the fallen Service members may continue in Domestic Dependent Elementary and Secondary Schools without limitations, neither on their physical residence nor on school transition points, until they graduate or until they relocate to another school system. Despite these recent policy changes to ease the transition process, the surviving family still goes through social, emotional, and geographical changes while making the shift from being a military family to a civilian family. The transition can entail additional losses for the surviving family by completely or partially losing the continuity in their living environment or some elements of their existing support networks. Reserve and National Guard families or Active Duty families living outside of military communities may find that their grief is less well understood by other well-intentioned civilian families in their neighborhoods. Children who attend schools with few other military children may find themselves isolated in their experiences of loss. These transitions can, in some ways, become the most complicating elements of the death for children at least in the short term (Cozza et al., 2005).

While the impact of parental death on children has been investigated in a variety of contexts, there are no studies that specifically examine the impact of parental death as a result of U.S. combat or combat support deployment. Two Israeli studies provide some insights that can inform research with U.S. military children (Kaffman & Elizur, 1983; Bachar et al., 1997). A small Israeli study with 25 children ages 1 to 10 whose fathers recently died in combat found that almost half of the children displayed significant behavioral issues, and anxious/dependent and externalizing behaviors remained high in a follow-up study (Kaffman & Elizur, 1983). However, it is unclear about the generalizability of the findings from non-American studies to American children who lost their parents in combat or combat-support deployments.

Understanding and Promoting Adjustment after Parental Death

The death of a parent can trigger children to exhibit distress, sadness, anger and despair with a small percentage developing significant psychiatric symptoms, namely depression (Dowdney, 2008) or experiencing difficulty building close relationships with others (Worden, 2004) when children do not successfully mourn their loss. On the other hand, civilian literature has identified several protective factors that contribute to resilience in parentally bereaved children. Resilience may involve a "chain of process" that begins with effective coping leading to feelings of self efficacy, which in turn improve psychological well-being (Lin et al., 2004; Sandler et al., 2003).

Positive parent-child relationship. Civilian literature has found that positive parent-child relationships with the surviving parent promotes child adjustment to loss of their parents (Brown et al., 2007; Luecken, 2000). Raveis, Siegel, & Karus (1999) found that the

surviving parent's ability to openly communicate with children significantly helped lowering the levels of depression and anxiety in the school-age children who lost a parent from cancer. If parents can maintain positive parenting strategies (e.g., consistent discipline), the surviving parent's mental health problems (e.g., depression) do not negatively impact child adjustment (Beardslee, 1998); Sandler et al., 1988; West et al., 1991).

Parent Functioning after the Loss. Research repeatedly indicated the importance of the competence of the surviving parent in ensuring positive adjustment of the child (Kalter, et al., 2002; Silverman, et al., 2002; Trembley, & Israel, 1998; Worden & Silverman, 1992). Worden and Silverman (1996) found that the most prevailing predictor of child adjustment following the death of a parent was the level at which the surviving parent was able to function after the death. Parents who are overwhelmed with their own grieving and overburdened by additional family responsibilities may not be able to give their grieving children attention, consistent supervision and positive esteem enhancing interactions.

Cohesiveness of Family. Keeping a family cohesive is another predictor for better child adjustment (Worden, 2004; Worden & Silverman, 1996). In a cohesive family, children feel comfortable communicating about the deceased parent, and there were fewer disruptions to patterns of daily living (Worden, 2004). On the other hand, children who exhibit poor adjustment were more likely to live in the household in which the surviving parent was depressed, not coping well, or young. Children subsequently showed lower self-esteem and felt less in control of their lives if the death resulted in a large number of additional stressors and changes in routine; children with poorly functioning parents were more likely to exhibit depression, anxiety, and sleep and health problems. Children who were able to maintain a continued bond with their deceased parent were more capable of expressing their emotional pain, discussing the death with others, and accepting support from others (Worden, 2004; Worden & Silverman, 1996).

Childhood Bereavement and Physical Health. Luecken (2008) notes that research linking childhood bereavement to long-term physical health and physiological systems is in its infancy. Epidemiological studies (Agid et al. 1999; Felitti et al., 1998, Krause, 1998) have suggested that childhood bereavement is associated with increased physical health problems over the life span. Further, recent evidence suggests that loss of a parent may have negative effects on physiological stress response systems (Luecken & Lemery, 2004; McEwen, 2003) as well as brain development and immune system functioning (Lewis et al., 2000).

Posttraumatic Growth. Finally, emerging research has begun to investigate the notion of "posttraumatic growth," which is defined as significantly positive outcomes as a result of experiencing a major life crisis such as parental death, sexual assault, illness, divorce, combat and bereavement (Calhoun et al., 2000). Traumatic death, such as homicide,

suicide or other violent death is associated with poor childhood outcomes (Cerel et al., 2006; Brent et al., 2009). However, some children exhibit remarkable resiliency and gained positive momentum in their lives from a deeply negative life event. Posttraumatic growth is a multi-dimensional construct that involves goals, behaviors, beliefs and identity. Wolchik et al. (2008) conducted a six-year longitudinal study of parentally bereaved adolescent and young adults using the Posttraumatic Growth Inventory and revealed that active coping and reaching out and seeking support from other adults transformed a "challenge" into an "opportunity" for growth.

Research in Progress

The Center for the Study of Traumatic Stress, Uniformed Services University of the Health Sciences is currently investigating the impact of Service member death on children and their caretakers in both military and civilian populations. Being executed in collaboration with Sesame Workshop, creators of the Sesame Street television program, the study aims at collecting baseline data on the functioning of surviving children (ages 2-18) who have lost a parent since September, 11, 2001 and their current caretaker in order to better understand their experiences and needs in bereavement. Major domains of interest include communication, interpersonal connection, emotional regulation and degree of psychological distress. The study will compare civilian and military families in order to identify differences in bereavement experiences, impact of traumatic death (e.g., in combat) and levels of support and resources. Finally, the study will specifically evaluate the helpfulness of a Sesame Workshop resource designed for grieving families (i.e., a DVD and print materials for bereaved families). Initial results of the project are expected to be available in early 2011.

Summary

In conclusion, researchers and counselors must understand childhood loss and grief as a trajectory and as a multi-level process, including systemic and contextual influences such as socio-economic status, family composition (e.g., single parent, blended/step family), parenting efficacy and family support; as well as child level variables including cognitive developmental stages; the child's own grief experience, school adaptation and pre-existing psychological conditions (Raveis et al., 1999; Silverman & Worden, 1992).

Both military and civilian literature on child bereavement still considers childhood bereavement as a discrete event, rather than a process. Longitudinal data collection would allow for measurement of both pre-loss levels of functioning and help explain whether or not significant differences in experiences of grief are due to individual differences or to failure to adjust to the loss ("successful grieving") (Bonanno, 2002).

It is imperative for bereaved children to be treated with respect to their own levels of emotional and cognitive maturity. Though it is painful, children need to learn and accept

that the death is real and irreversible and that they are blameless. Feelings and concerns should be expressed, and questions should be invited and answered with simplicity, candor, and clarity.

The mixed outcomes in the child bereavement studies reviewed in this section may be derived from the differences in child ages when the impact of parental loss is measured. Compared with cross-sectional studies, a longitudinal study design is more suitable to address differences by pre-existing psychological conditions), gender, and other variables (Schmiege, 2006). Current research is also characterized by small sample sizes as well as indirect measurement (e.g., observations of children made by others). The difference between child self-report and parental report was reported by Dowdney (2008) where parents underestimated the degree of distress felt by their children.

Future research should focus on understanding how children whose parents die in service to their country differ from children whose parents are civilians: Researchers should revisit the notion that circumstances surrounding parental death do not have an impact on children's grief and recovery ─ an issue of special relevance to military populations. Given the prevalence of traumatic losses of parents in the military, future research should include studies of childhood traumatic grief prevalence to develop specific interventions for grieving children.

Further research is necessary to better understand the trajectory of childhood bereavement over the span of childhood using a longitudinal study design: Future studies should link psychosocial outcomes to physiological ones to derive a more complete picture of the impact of childhood adversity on later adult functioning. Including race, ethnicity, and culture as variables in future investigations is well advised as very little is known about the effects of these variables in child bereavement.

6. THE IMPACT OFDEPLOYED PARENTS ON CHILDREN WITH PRE-EXISTING PSYCHOLOGICAL CONDITIONS

While military children show the strength and resiliency to cope with deployment-related stress, psychological vulnerabilities in military children may result in clinical levels of mental health problems as a function of parental combat deployments (Lincoln, Swift, & Shorteno-Fraser, 2008). This section reviews the impact of deployment on children with pre-existing psychological conditions and discusses the resources available to military children who need additional support to prevent or manage these psychological conditions. For this report, the term "psychological conditions" is broadly defined as the spectrum of difficulties with emotions, concentration, behavior, or peer relations, which ranges from issues mildly disruptive to daily functioning to clinically diagnosable mental and emotional health conditions.

In the United States population, parental report showed that five percent of American children ages 4-17 had serious difficulties with emotions, concentration, behavior, and interpersonal relationships; eight percent of youth ages 12-17 reportedly had major depressive episodes within the past 12 months in 2008 (Federal Interagency Forum on Child and Family Statistics, 2010).

Children with pre-existing psychological conditions are likely to be more vulnerable to the effects of deployment and may require special support and services to cope with deployment-related stress. At present, there are no publicly available data or statistics on the numbers of military children with "pre-existing" psychological conditions at the time of parental deployment.

The Impact of Deployment on Children with Pre-existing Conditions

While there is no research specifically designed to look at the impact of deployment on children with pre-existing psychological conditions, several studies of military children have suggested that children with pre-existing psychological conditions could be especially vulnerable to the effects of parental deployment (see Lincoln et al., 2008).

In a study of 1,601 children (ages 0-18) whose parents were deployed during Operation Desert Storm, the authors reported that a previous history of counseling was the most significant predictor for child adjustment to parental deployment (Rosen, Teitelbaum, & Westhius, 1993). More recent studies have found that some children developed high levels of psychological symptoms, such as depression and anxiety (Chartrand et al., 2008; Lester et al., 2010; Chandra et al., 2010) as a result of parental deployment. In a study of 1,507 military adolescents (ages 11 to 17) and their non-deployed caregivers, Chandra et al. (2010) found that the children who demonstrated a range of emotional problems (such as behavioral problems, conduct problems, hyperactivity, emotional symptoms, and

problems with peers) before deployment were more likely to experience difficulties during deployment.

Research with non-military samples has also suggested that prior emotional problems place children at risk for later mental health problems as a function of experiencing stressful life events, such as parental separation, and family conflict may increase children's risk for psychological problems (e.g., Ford, Goodman, & Meltzer, 2004; Ford et al., 2006; Stadelmann et al., 2010). As mentioned earlier in this report, child bereavement literature indicated that traumatic parental death and pre-existing psychological problems such as depression are positively associated with poor adjustment in children who lost their parents (Dowdney, 1999).

To prevent the development of psychological health conditions, military families with a child who is experiencing emotions, concentration, behavior, or peer relations are strongly encouraged to seek help through DoD-sponsored programs such as EFMP and non-medical counseling services, TRICARE, and community-based programs and services.

The DoD Exceptional Family Member Program (EFMP) assists military families with special needs, which would include children who have a diagnosed mental health disorder or other intellectual, physical or developmental issues. At family support centers, the EFMP staff provides families with information and referral services, helps them learn how to navigate the system of supports available both on and off an installation, and educates them on benefits and support services. Additionally, Service members who enroll in the EFMP have their family member's special needs documented so that they can be considered when the military is determining the next assignment for the member and the family.

For children with temporary or mild emotional, social, and behavioral issues, Military OneSource (MOS) and Military Family Life Consultants (MFLC) programs offer free non-medical counseling (up to 12 sessions per issue) to Service members and their families. Non-medical counseling is aimed at addressing life skills (e.g., anger management or parenting), the military lifestyle (e.g., deployment stress, reintegration), and loss and grief, to help prevent the development of psychological health conditions that may detract from military and family readiness. MOS offers non-medical counseling face-to-face, telephonically, and on-line. MFLCs deploy to active duty installations for up to 90 days and to National Guard and Reserve events to provide on-site support. MFLCs have child and youth behavior specialists to specifically support military children's emotional and behavioral needs.

Summary

At present, there are no official statistics of military children with pre-existing psychological conditions at the time of parental deployment. To avoid confusion and gain the consensus within the military community, children with pre-existing psychological conditions should be clearly defined and appropriately identified as a first step. Further research is necessary to better understand the varying needs and life stressors that are unique to children with preexisting psychological conditions and coping mechanisms that work best for them and their families. The impact of parental deployment on children with pre-existing psychological conditions is potentially severe for those children, though risk factors may be alleviated if families take preventive measures fully utilizing services and programs available to them.

7. PARENTAL DEPLOYMENT AND FAMILY RISK FACTORS

Although there has been growing concern about the impact of parental deployments on family risk factors, such as child maltreatment (child abuse and child neglect), family violence, substance abuse by children or parental substance abuse, very few studies have been conducted to examine these relationships. The impact of deployments on family violence is extensively assessed in another DoD report to Congress mandated by NDAA 2010 Section 569 on the impact of domestic violence in families of members of the Armed Forces on the children of such families. There is no study on child substance abuse or parental substance abuse focusing on children's well-being as a function of parental deployment. Therefore, this section reviews the trend data on substantiated child abuse and neglect cases within DoD from Fiscal Year (FY) 2001 to FY 2009 and highly relevant academic literature on child abuse in military families. Some studies on family violence and substance abuse are included only if their outcome variables are relevant to child well-being or maltreatment.

Family Advocacy Program

Within DoD, the Family Advocacy Program (FAP) plays the central role in addressing child abuse and neglect in military families. There is a FAP at every U.S. military installation worldwide where the command officially sponsors families to be present. FAPs sponsor and coordinate prevention activities provided by family centers, medical clinics, and DoD schools and with civilian agencies in the community, since approximately two-thirds of military families live outside the installation. Prevention activities include public awareness campaigns, parent and family life education, safety education for children, the DoD home visiting-based New Parent Support Program, and conducting background checks for those providing services to children. DoD policy requires that everyone in the military community report suspected cases of child abuse/ neglect to the FAP. Installation FAP staff conduct regular campaigns on how to recognize and report child abuse/neglect, and conduct in-depth training for mandated reporters and volunteers in child development and youth programs.

When a report is received the FAP ensures that appropriate law enforcement and/or civilian child protective services (CPS) agencies are notified to conduct investigations. If shelter care is needed, FAPs assist the CPS agency in taking custody, arranging short term shelter care in installations outside the U.S. and transportation to the CPS agency in the U.S. FAPs convene multidisciplinary teams to review cases to determine clinically whether incidents meet criteria for entry into the Services' FAP Central Registry ("substantiated report"). Clinical treatment to help the child victim recover and to help the family prevent abuse and neglect from recurring are provided either by the FAP or by the civilian CPS agency. Specific FAP services include assessment, crisis intervention, counseling (individual, couple, and group), respite day care and support groups.

Substantiated Reports of Child Abuse and Neglect Within DoD

FAP data consistently show that approximately 50 percent of the abuse or neglect in active component families is committed by the active duty Service member parent. Nearly half is committed by the child's civilian parent and the balance is committed by an extra-familial caregiver. About two-thirds of the substantiated reports involve either neglect or emotional abuse; only about a quarter of the substantiated reports involve physical abuse.

Table 4 shows the rates of substantiated child abuse and neglect per 1,000 children in active component military families over the past ten years. This rate of substantiated child abuse and neglect has remained relatively constant over the past decade and, despite the intensity of military deployments, has been consistently less than half the rate for civilian children as compiled by the Department of Health and Human Services from state child protective services data.

Table 4. Trend data of substantiated child abuse and neglect per 1,000 children in active component military families.

Fiscal Year	Population of Military Children	Number of Substantiated Reports	Rate per 1,000 children
FY 00	1,230,925	8,068	6.6
FY 01	1,127,492	7,612	6.8
FY 02	1,145,001	7,556	6.6
FY 03	1,149,764	7,463	6.5
FY 04	1,120,590	7,881	7.0
FY 05	1,104,716	6,178	5.6
FY 06	1,103,362	5,603	5.1
FY 07	1,103,270	5,434	4.9
FY 08	1,122,098	5,406	4.8
FY09	1,147,318	5,499	4.8

Data Source: DoD Office of Family Advocacy Program.

In 2004, the DoD rate of substantiated child abuse and neglect increased slightly by 7 percent from 2003 but subsequently fell by 20 percent from 2004 to 2005. The continued decline in the rate of child maltreatment during a period of ongoing and lengthy combat related deployments for many Service members and their families may be attributable to the effectiveness of family support and child abuse prevention programs, increasing leadership support for families, family members returning to their home of record during deployment or a combination of these or other factors.

Parental Deployment and Child Maltreatment

Recent studies have found that parental deployment has been associated with an increase in child maltreatment (Gibbs et al. 2007; Rentz et al. 2007). Gibbs et al. (2007) conducted a study of 1771 enlisted Army families who experienced at least one combat-related deployment and had at least one substantiated child maltreatment incident committed by either the active duty or civilian parent during the 40 month study period from September 2001 to December 2004. Using estimated rate ratios of incidents, the analysis compared the rate of child maltreatment during deployment with the rate of child maltreatment during non-deployments.

In this study, the rate of child maltreatment during deployments was 42 percent higher than the rate of child maltreatment when soldiers were not deployed. For female civilian parent offenders, the rate of child maltreatment was significantly elevated, more than three times the rate during the non-deployment period. In particular, the rate of child neglect by the civilian parent was almost four times the rate of child neglect when the soldier parent was not deployed. Although the overall rates of physical and emotional abuse were significantly lower during deployment when looking at all parent-offenders, the rates of physical and emotional abuse by the female civilian parent was nearly twice the non-deployment rate. In examining all the characteristics of the civilian female parent, rates of child maltreatment were consistently elevated during deployment.

The rates of maltreatment were elevated for children who were older than 2 and younger than 12. For children under the age of 2, elevations in the rate did not reach statistical significance. This finding may indicate the effectiveness of outreach and prevention programs targeting expectant and new parents of children ages 0 to 3 such as intensive home visiting offered through the New Parent Support Program, extended family and other social support for new parents of young children, an expectant or new mom returning to the home of record while the active duty member is deployed, or a combination of these factors.

An earlier study by Rentz et al. (2007) conducted a time-series population-level analysis of Texas child maltreatment data and the state level deployment data from 2000 to 2003 to examine the changes in the occurrence (reported and substantiated incidents) of child maltreatment in military and nonmilitary families. The study pointed out that the rate of substantiated maltreatment cases in military families doubled during large scale deployments within the state, again with the greatest increase occurring in abuse by civilian parents. The rate of child maltreatment in military families increased by approximately 30 percent for each 1 percent increase in the percentage of active duty personnel departing to or returning from deployments. It is worth exploring whether other geographic locations with military installations that deploy large numbers of military personnel have had different rates of abuse and neglect than the state of Texas did, and

whether any differences are attributable to community variables such as existence of military and civilian family support and access to care.

Similarly, McCarroll et al. (2008) found that the rate of child neglect in Army families increased by 40 percent between 2000 and 2004. Although this study did not examine the relationship between child maltreatment and deployment, large scale, frequent, and long lasting deployments of Army personnel occurred during this same time period.

These three studies raise concern about the potential for child maltreatment in the family while the Service member is deployed, especially in those families with a civilian female parent and children over the age of two and under the age of twelve. After 2004, family support initiatives and programs proliferated throughout all four Services yet few have been studied to determine their effectiveness in strengthening family functioning and preventing problems such as child abuse and neglect. Now that war has continued for an additional six years and these family supports are robust, a replication of the studies referenced above could be helpful in determining if these family support and prevention programs and initiatives have reduced the rates of child abuse and neglect, and in particular to reducing the rates of child neglect by the civilian parent during deployment. Do the civilian parents who were substantiated for child neglect during times of deployment differ from civilian parents who did not have substantiated child neglect? If so, potential variables would include role strain due to intermittent single parenting, life events during the deployment, daily stressors (transportation, childcare, respite) and more chronic stressors such as disabilities of the parent and/or the child, mental health problems, substance use/abuse, adverse childhood events, and unemployment or underemployment and/or financial problems.

Veterans with Post-Traumatic Symptoms, Family Violence, and Child Maltreatment

Currently, DoD has no data that show statistically significant increases in rates of child maltreatment upon the Service member parent's return from deployment. However, for returning Service members with mental health disorders there is some evidence of problems with readjustment and reintegration into family life that may affect their parenting. Sayers et al. (2009) found that 25 percent of married or cohabiting OIF/OEF veterans who were referred to a Veterans Affairs Medical Center for a behavioral health evaluation reported that their children seemed to be "afraid of" or distant from them and that 60 percent admitted to using domestic violence against their spouse/partner and/or their children. In a study of OEF/OIF veterans recruited from a Department of Veterans Affairs outpatient clinic, veterans with PTSD reported engaging in more psychological and physical aggression than veterans without PTSD (Tetan et al., 2010). In addition, veterans with PTSD were more likely to cause or sustain an injury due to intimate partner violence than veterans without PTSD.

In a study of Vietnam veterans, spouses reported that intimate partner violence perpetrated by both the veteran and the spouse was more prevalent in families with male Vietnam veterans with PTSD compared to those without PTSD (Jordan et al., 1992). Among female Vietnam veterans, higher PTSD symptoms severity was associated with more psychological abuse, but not physical abuse, perpetrated by the veteran and the spouse against children (Gold et al., 2007). A study prior to OEF/OIF also found that Army families with identified spouse abuse were 4.9 times more likely as families without spouse abuse to have a later substantiated case of child abuse (Rumm, Cummings, Krauss, Bell, & Rivara, 2000). These findings suggest that a returning veteran who commits intimate partner violence is also at risk for committing child physical abuse. However, there is no research that demonstrates that deployment per se, without negative experiences that produced mental health problems, affects the Service member' parenting upon return. Further research might examine a) the relationship among combat exposure, a diagnosis of PTSD, and rates of child abuse and neglect by the Service member and by the civilian parent; b) the relationship between combat-related deployments and non-combat deployments and the rates of child abuse and neglect.

Summary

As noted above, there have been a very small number of studies examining the relationship between parental deployment and risk behaviors. Though there are a number of studies from previous conflicts looking at the linkage between combat and substance abuse (Prigerson, Maciejewski, & Rosenheck, 2001; Fiedler, Ozakinci, Hallman, et al. 2006), but these studies did not examine how substance abuse impacted children's physical or psychological well-being. There is no study on child substance abuse as a function of parental deployment. In terms of child maltreatment, future studies should include representative samples drawn from all four Services, rather than focusing solely on the Army, to validate the linkage between deployment and the increase in child maltreatment. There is no research on the prevalence of child maltreatment in Reserve component families. These families have had the same stressors of deployment as those in the active component but often reside too far from military installations to receive the increased supportive services provided for active component families living on or near installations when the service members deploy. Moreover, reports of child abuse and neglect in Reserve component families from civilian do not come to the FAP. To fill this gap in child maltreatment data in Reserve component families, it is necessary to collect annual rates of abuse and neglect in Reserve component families, distinguishing between families who have and who have not experienced combat-related deployments. Such a study should identify whether the civilian parent had access to military and civilian family support programs.

While the general assumption that deployment negatively impacts parenting has some support in research, there is very little known about the effects of the Service member's deployment on children who were maltreated by their service member parent prior to deployment. Abused and neglected children are generally more vulnerable to additional stressors in the course of their development, but the absence of an abusive or neglectful parent due to deployment may have a palliative effect. However, the quality of parenting by the non-deploying parent would also have to be considered in evaluating the overall impact on the child.

DoD should pursue the implementation of evidence based or supported programs that have been shown to reduce rates of child abuse and neglect. For instance, the Center for the Study of Social Policy, through its Strengthening Families project, has conducted a meta-analysis of the scientific child abuse and neglect prevention literature and identified five protective factors associated with successful approaches to reducing child abuse and neglect: parental resilience, social connections, knowledge of parenting and child development, concrete support in time of need, and healthy social and emotional development (Center for the Study of Social Policy, 2003). A family-focused strengths-based approach incorporating these factors has been disseminated by the Department of Health and Human Services' Administration on Children and Families and widely adopted by civilian child abuse prevention programs.

8. FINDINGS AND RECOMMENDATIONS

Despite the significant improvement in the quality and methodology of research on military children in the past few years, our current knowledge about the impact of parental deployment on military children still relies on cross-sectional studies that draw conclusions based on a small, convenience sample, which significantly hampers the generalizability of study findings. Some of the ongoing research efforts, which overcome these shortcomings, are most likely to provide empirical evidence that would better address child outcomes as a function of parental deployment. There is a need for a communication channel or centralized repository for tracking planned research projects, those in progress, and active research solicitations, in order to minimize duplication of research efforts. This should also help the burden on military families as subjects of multiple studies.

Key Findings

Below are the key findings from available studies based on OEF/OIF data reviewed in this report:

Children's Coping with Parental Deployment:

- Children's reactions to deployment-related parental absence vary by age, developmental stage, and other individual and family factors. While young children are likely to exhibit externalizing behavior such as anger and attention difficulties, school-age children demonstrate more internalizing behaviors, such as increased levels of anxiety and fear, sensitivity to media coverage, and reduced school performance. While adolescents often take household responsibilities and become more independent, they were more likely to experience academic, depressive symptoms, and behavioral problems in response to emotional stress.

- Though the focus of recent studies has shifted to older children' adjustment to parental deployment, young children (infants and preschoolers) are still most impacted by parental absence associated with deployment. In contrast to older literature, in which boys were found to experience more difficulties than girls during deployment, most recent studies have shown that adolescent girls seemed to encounter more challenges overall than boys.

- The non-deployed parent/caregiver's psychological health is positively associated with children's successful coping with deployment-related stress. This finding suggests that programs for the non-deployed spouses can indirectly but powerfully contribute to the well-being of children of the deployed Service members.

- Research has found that the majority of military children demonstrated a high level of resilience to successfully cope with parental deployments with support

from the non-deployed parent, other family members, neighbors, schools, DoD-sponsored support programs, and community resources. Despite these strong support networks in military and civilian communities, the knowledge and resources to promote resiliency of military families and children are not centrally available.

- The literature on functioning of children of war veterans suggested that children of wounded Service members are at risk for emotional and behavioral problems. Research on children of the wounded Service members who sustained severe physical injuries, PTSD, and TBI is required. A longitudinal study design should be adopted to understand the long-term effects that might change throughout childhood as they emotionally, intellectually, and socially mature.

- There is no research on the impact of parental death on military children; civilian research on child bereavement has mixed results. This is probably because parental death is considered a discrete event. Future research is necessary to better understand the trajectory of childhood bereavement over the span of childhood using a longitudinal study design.

- Though recent studies have found the linkage between parental deployment and the increase in child maltreatment, the generalizability of the findings need to be validated with more representative samples.

Research on the diversity in military families:

- ***Diversity in family composition.*** There have been very few studies focusing on family diversity and its impact on child adjustment to parental deployment. Despite their increasing presence in the U.S. military, children of dual-military couples and single family parents have not been the primary subject of assessment or research. Children in these families are more likely to experience significant changes in their living environment and daily routines than children in traditional military families.

- ***Other family factors.*** Previous research has identified factors affecting child adjustment during deployment (e.g., preexisting psychological conditions, single military parents, children with disabilities). Nonetheless, there is no systematic research on how these factors interact with deployment-related stress in the process of child adjustment.

Recommendations

Actionable recommendations for DoD stakeholders and military family researchers as they build research and utilize findings for policy making and program development and

implementations to address the key findings identified in this assessment effort are provided below:

1. Increase the efficiency of research efforts pertaining to the impact of parental deployment on children.

1.1. Coordinate among the Services, partnering universities and other federal agencies doing similar research. This will reduce duplication of data collection and research efforts as well as the burden on military families as subjects of multiple studies.

1.2. Create a communication channel or centralized repository for tracking planned research projects, those in progress, and active research solicitations. Promote cross-fertilization of researchers within DoD, including the Military Services and Office of Secretary of Defense, for opportunities to conduct joint research and sharing data.

2. Address the diversity in military families and other relevant family factors in research to promote a more complete understanding of how military children cope with deployment-related family separation.

2.1 Address the diversity in military families in research to promote a more complete understanding of the diversity in military families.

- ❖ Assess the needs, concerns, and challenges facing single military parents, blended families, and dual-military couples. Further data analyses using DMDC survey data will help effectively address the family diversity in family policies and program development within DoD. The scope of the assessment should include non-parent caregivers and extended family members.

- ❖ As the proportion of women continues to increase in the U.S. Military, assessing the impact of maternal deployment is particularly meaningful to provide appropriate levels of support for military children.

2.2 Systematic research is required to examine how family factors (e.g., children with preexisting psychological conditions, children with disabilities), which were identified as potential risk factors in child adjustment to parental deployments, affect children's coping with deployment-related stress.

Final Thoughts

Family separation due to deployment is a major life event, which could cause a great deal of stress for military children. To date, published studies have relied heavily on cross-sectional research, which does not allow us to capture the fluid process of child adjustment to parental deployment throughout childhood. The framework of life trajectories of children is necessary to better understand how parental deployments affect the healthy development of military children – cognitively, socially, and emotionally and how we can promote their resilience to cope with deployment-related stress. The literature and survey data we reviewed in this report suggest that our current knowledge and data on the impact of parental deployment on military children must address the needs, concerns, and issues derived from the diversity in today's American military families and their changing needs. Despite the paucity, there are promising ongoing studies that will allow us to capture the fluid process of child adjustment to parental deployment over time. The recommendations provided in this report represent how future research in this field should be guided to effectively inform us of the development of policies and programs for the support of military families and children.

APPENDIX A
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APPENDIX B

Detailed DMDC Survey Results of
Children's Behavioral Changes during the Most Recent Deployment

Active Duty (The 2008 Survey of Active Duty Spouses)

Q39—Children's Emotional/Behavioral Changes in Response to Deployments

Behavioral change	Response	%			
		Total DoD	0-5 yo	6-13yo	14-18 yo
Level of fear/anxiety	Increased	64	63	69	50
Problem behavior at home	Increased	57	61	55	53
Closeness to family members	Increased	48	59	39	30
Level of anger about my spouse's military requirements	Increased	46	41	50	47
Level of distress over discussions of the war	Increased	42	27	51	43
Degree of pride in having a military parent	Increased	39	32	43	39
Problem behavior at school	Increased	37	40	35	37
Level of responsibility	Increased	36	29	40	42
Level of independence	Increased	33	33	30	46
	Decreased	20	23	19	16
Closeness to friends	Increased	31	35	25	39
Academic performance (decreased)	Decreased	37	21	41	54

Reserve Component (The 2008 Survey of Reserve Component Spouses)

Q54/Q55—Children's Emotional/Behavioral Changes in Response to Deployments

Behavioral change	Response	%			
		Total DoD	0-5 yo	6-13yo	14-18 yo
Level of fear/anxiety	Increased	67	67	73	55
Degree of pride in having a military parent	Increased	66	58	72	65
Level of distress over discussions of the war	Increased	56	40	64	55
Closeness to family members	Increased	54	63	55	38
Problem behavior at home	Increased	50	56	48	47
Level of anger about my spouse's military requirements	Increased	44	44	47	40
Level of responsibility	Increased	37	28	40	40
Problem behavior at school	Increased	34	35	32	39
Closeness to friends	Increased	33	35	30	40
Level of independence	Increased	31	26	28	44
	Decreased	28	34	30	16
Academic performance	Decreased	38	19	40	53

APPENDIX C
List of Abbreviations

ADSS 2008 – The 2008 Active Duty Spouse Survey
CPS – Child Protective Services
CTG – Childhood Traumatic Grief
DMDC – Defense Manpower Data Center
CYB-MFLC – Child and Youth Behavioral/Military and Family Life Consultant
DoD – Department of Defense
FAP – Family Advocacy Program
FY – Fiscal Year
FOCUS – Families OverComing Under Stress
JFSAP – Joint Family Support Assistance Program
MFLC – Military and Family Life Consultant
MOS – Military OneSource
NDAA – National Defense Authorization Act
NPSP – New Parent Support Program
OASD (HA) – Office of the Assistant Secretary of Defense for Health Affairs
ODUSD (MC&FP) – Office of the Deputy Under Secretary of Defense for Military Community and Family Policy
OIF – Operation Iraqi Freedom
OEF – Operation Enduring Freedom
PTSD – Posttraumatic Stress Disorder
RCSS 2008 – The 2008 Reserve Component Spouse Survey
TBI – Traumatic Brain Injury
USDA – United States Department of Agriculture