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UNDERSTANDING and PROMOTING Resilience IN MILITARY FAMILIES

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Introduction

This review of scientific evidence about resilience in children and families was compiled at the request of the Office of Military Community and Family Policy in the United States Department of Defense. The purpose of the review is to examine research conducted in civilian and (where available) military settings that may provide insights about individual and family resilience in the face of events that might have impacts similar to deployment. Ultimately, such insights may provide guidance regarding strategies likely to prove successful in minimizing any negative effects of deployment on military families and children.

The review begins by considering the definition and key characteristics of resilience in children, youth, adults and families. The adverse circumstances that might particularly apply to military children and families are then considered. Next, the key features of resilience in children, youth, adults, and families are considered, followed by a consideration of the strategies that have proved most effective in supporting the development and expression of resilience. In the final section, future research needs regarding the development of resilience in military children, youth, adults and families are identified.

What is Resilience?

Over the last several decades, resilience has been studied extensively, especially in children and adolescents. Although much has been learned, a conceptually clear and commonly accepted definition is still lacking. Most definitions however, include two key elements: 1) exposure to adverse or traumatic circumstances; and 2) successful adaptation following exposure. For example, Luthar (2006) states that, *"Resilience is defined as a phenomenon or process reflecting relatively positive adaptation despite experiences of significant adversity or trauma. Resilience is a superordinate construct subsuming two distinct dimensions – significant adversity and positive adaptation – and thus*

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is never directly measured, but is indirectly inferred based on evidence of the two subsumed constructs" (p. 742). In other words, one cannot be deemed "resilient" in the absence of a significant stressor.

Early research focused on identifying deficits within individuals and how to best identify and treat those deficits. This approach proved limiting, however, and in recent years there has been a shift toward assessing "assets" or individual strengths (Tedeschi & Kilmer, 2005), as well as focusing on the contexts in which individuals function (e.g., communities, schools, etc). Taken all together, this research yields several key insights about resilience, which are discussed below.

Resilience requires exposure to adversity

Inherent to most definitions of resilience is that the individual is faced with an aversive or potentially traumatic situation. Therefore, an individual cannot be deemed resilient in the absence of a significant stressor. Although positive adjustment, competence and coping are all conceptually related to resilience, they can all be exhibited in the absence of adverse or traumatic circumstances (Fergus & Zimmerman, 2005) – and without confidence that resilience would follow were an aversive event to occur.

Resilience has both environmental and biological components, both of which are dynamic

Initially, resilience was conceptualized as a stable personal trait (e.g., hardiness). Later research made it clear that factors in the environment support and constrain resilience (e.g., quality of parenting). Today, new research is revealing complex interactions between individual and environmental factors that influence the likelihood of resilience in the face of challenge (Walsh, 2003). In the first study of its kind, Kim-Cohen and colleagues (2004) used data from the Environmental Risk Longitudinal Twin Study (E-Risk Study; a longitudinal study of 1,116 twins born to low socioeconomic status families) to examine the role of both genes and environment in children's cognitive and behavioral resilience) (Kim-Cohen, Moffitt, Caspi, & Taylor, 2004). Results from the study revealed that cognitive and behavioral resilience to low socioeconomic status was influenced by both genetic factors, such as temperament or personality, and environmental factors such as maternal warmth. The most exciting aspect of this work is the notion that genetic components can be modified by the environment. For example, Koenen, Moffitt, Caspi, Taylor, and Purcell (2003) reported that the IQs of 5-year-old children exposed to high levels of domestic violence were 8 points lower than those of children not exposed to violence. Findings such as this and others (Sameroff, Seifer, Zax, & Barocas, 1987; Murray, 1992; Sharp et al., 1995; NICHD, 1999; Cicchetti, Rappaport, Sandler, & Weissberg, 2000) consistently show that the environment can and does modify biological components. During early childhood, cognitive stimulation is particularly important because it can enhance the physical structure of the still-developing brain. Thus, environments that do not provide adequate stimulation can ultimately reduce children's cognitive capacity (Luthar, 2006). In contrast, improving the environment may help to increase young children's cognitive capacity.

Resilience develops over time

As models of resilience have shifted in focus from solely individuals to the interactions between individuals and their environments (Theokas et al., 2005), it has become clear that resilience is not a static trait. While individual characteristics (e.g., hardiness) play a role in resilience, they are not the *only* factors to consider. Fergus & Zimmerman (2005) state that, *"resilience is defined by the context, the population, the risk, the promotive factor, and the outcome"* (p. 404). For example, research has shown that having positive relationships later in life can promote healthy outcomes despite the presence of risk factors in childhood (Rutter, 1987; Laub & Sampson, 2003; Conger, Rueter, & Elder, 1999; Vaillant & Davis, 2000).

Resilience is inherently strength-based

Research on resilience was initially rooted in a medical or deficits model that sought to identify, reduce, and prevent factors associated with unhealthy development. Such approaches proved limiting, however, and recent research has focused on strengths-based models that emphasize identifying and building upon already existing strengths to promote healthy developmental outcomes (Benson, Mannes, Pittman, & Ferber, 2004).

Consistent with this model, clinically-oriented researchers suggest assessing and promoting strengths in therapy in order to promote feelings of competence. Therapists point out areas where the individual has coped successfully in the past, and identify strengths that can be built upon over the course of therapy (Tedeschi & Kilmer, 2005).

Resilience is domain-specific

As discussed above, it is now clear that resilience is not a static personality trait, but rather is part of a dynamic process that includes individuals' interactions with their surrounding environments. Resilience can be situation-specific and therefore, it is unlikely that an individual will demonstrate resilience across all situations (Luthar, 2006). Research has shown, for example, that children considered to be resilient may be so in one area, or domain (e.g., school), but not another (e.g., conduct) (Luthar, Doernberger, & Zigler, 1993). In light of this growing body of literature, researchers suggest using specific terms to designate domains in which resilience is exhibited (Wang & Gordon, 2004; Denny, Clark, Flemming, & Wall, 2004).

Resilience has been studied differently in children, youth, and adults.

Resilience is conceptualized differently depending on the population being examined. In children, resilience is most often looked at from a developmental perspective and seeks to identify variables most likely to produce positive outcomes (e.g., healthy development and adjustment) in the face of adversity. In contrast, resilience in adults is conceptualized as factors that allow an individual to successfully cope with a traumatic event, while maintaining a healthy level of functioning (Bonanno, 2004). Finally, resilience in adolescents appears to combine these two approaches. Available research suggests that resilience in youth is determined not only by their environment, but also by individual differences. For example, developmental systems theory recognizes the individual and the context as being dynamically interactive: youth are seen as active participants in shaping the environment which in turn increase their own individual competencies (Theokas et al., 2005). Therefore, research in this area usually focuses on assets and resources. Assets are conceptualized as intrinsic factors that promote resilience (e.g., coping skills and self-efficacy) while resources are those factors external to the adolescent that also promote resilience (e.g., supportive parents and communities) (Fergus & Zimmerman, 2005).

Resilience can be enhanced

Individuals who have poor developmental outcomes as children are not doomed to a life of negative outcomes. Several studies have shown that the effects of a deficient environment can be reversed by involvement in a positive environment. For example, Rutter (1993) reported that Romanian children residing in an orphanage under extremely harsh conditions and exhibiting both developmental and cognitive delays showed considerable improvement by age 4 after being adopted into a positive and nurturing environment. In a longitudinal study of nearly 700 children born into poverty on the island of Kauai (Werner, 1993) findings revealed that one-third of those considered to be at the highest risk for negative developmental outcomes went on to overcome the risk and live fulfilling and successful lives. At the final assessment at the age of 40 all but two of these individuals were still living successful lives. Even more important, those adolescents who previously had exhibited poor functioning turned their lives around in adulthood and reported positive outcomes, which they credited to having developed supportive relationships. Overall, these findings suggest that later positive relationships can help to reduce or cancel the effects of early deficits.

There are multiple paths to resilience

No single or specific factor will determine resilience or poor functioning. It is the interaction between numerous factors that ultimately determines whether an individual or family will be resilient in the face of adversity. For example, high intelligence and cognitive ability have consistently been identified as resilience-promoting in children, as has a warm and supportive family environment (Condly, 2006) and a relationship with at least one caring non-parent adult (Benson, 2006). However, many different combinations of these factors have been observed in children who grow up in negative home environments but go on to live successful and well-adjusted lives (Plomin, 1989; Rende & Plomin; 1993).

Risk does not accumulate monotonically

Individuals who experience an accumulation of risk factors are at increased risk for negative developmental outcomes (Masten & Wright, 1998; Rutter, 1979, 1990 as cited in Masten, 2001; Seifer & Sameroff, 1987 as cited in Masten, 2001). Risk factors often co-occur, and the likelihood of negative outcomes rises at an increasing rate as risks accumulate. For example, a study of 10-year olds examined the cumulative risk of developing a psychiatric disorder given the following risk factors: severe marital distress, low economic status, large family size, paternal criminality, maternal psychiatric disorder, and child entering into foster care. Results revealed that among families with one or less risk factors the risk of developing a psychiatric disorder was 2%. The risk of developing a psychiatric disorder increased to 20% in families with four or more risk factors (Rutter, 1979 as cited in Sameroff, 2006). In another study, Sameroff and colleagues cluster analyzed data from the Framingham Study (a study of risk factors for heart disease that reported that no single risk factor alone was enough to cause heart disease; Dawber, 1980 as cited in Sameroff, 2006) and found that only families with multiple risk factors had negative outcomes (Sameroff, Seifer, Baracos, Zax, & Greenspan, 1987a as cited in Sameroff, 2006). Results from these and other studies (Sameroff, Seifer, Zax, & Barocas, 1987b) suggest that risk factors should not be considered in isolation from one another (Luthar et al., 2000a; Masten, 2001).

The Nature of Stress and Trauma for Military Children and Families

Early research on resilience was stimulated by observations of children facing extreme deprivation. In this section we consider the aspects of military life that might expose children or families to circumstances or events that would require them to exercise resilience.

Stressors may be categorized in many ways, but one key dimension along which stressors vary is the degree to which they are normative, meaning events that individuals might reasonably expect to face based on the experiences of familiar others. For example, the transition to high school could be considered a normative stressor because almost all children experience it. By this logic, regular separations from parents can be considered normative for children in the Navy. Similarly, many of the other seminal experiences of military life are normative for military children, including lengthy parental work hours, permanent changes of station, deployments for a variety of purposes, and exposure to combat-related equipment and activities (e.g., training). This characterization is more accurate for children of service members in the active than the reserve components, however, because reserve component children have fewer opportunities to observe the experiences of other military children (of course reserve component children are also less likely to move for military reasons or to experience frequent deployments).

Even normative or expected stressors may be challenging, however, and require efforts to cope. Other characteristics of stressors also affect the degree to which they are challenging. For example, events or circumstances that are sudden, serious or unwelcome, that cause traumatic losses of persons or relationships, that are ambiguous, that involve prolonged suffering, that recall past traumatic experiences, or that 'pile up' are likely more challenging, especially when the skills and abilities of the individuals, families or communities are poorly matched to the demands posed by the stressor (Boss, 1988; Walsh, 2007). In those circumstances, individuals, families or communities will experience 'crises,' defined as circumstances which exceed the resources available for coping.

Stressors also vary in the degree to which they constitute single discrete events, such as a tornado, or ongoing continuous circumstances. Continuous stressors, those emerging from the demands of daily life, include chronic stressors and 'daily hassles.' Chronic stressors are recurrent life difficulties, such as stressful work, conflicted marriage, or financial difficulties. They tend to be open-ended, ambiguous in nature, and difficult or impossible to resolve. Daily hassles are relatively minor events, typically unexpected, irregular, and short-lived, such as car troubles, breakdowns in child care, or unexpected deadlines.

In at least one rigorous study, both chronic stressors and daily hassles were negatively related to psychological well-being. In addition, chronic stressors increased

the likelihood that daily hassles would occur, and increased their negative effects on psychological well-being. "Chronic stressors present an ongoing threat to the individual, the *ever-present potential* to erupt in ways both large and small in an individual's daily life. Daily hassles, in contrast, include the vast array of minor *disruptions* that actually do occur, forcing the individual to act on them. …the combined effect of the two types of stressors is greater than the additive effects of both" (Serido, Almeida & Wethington, 2004, p. 30).

Although community resilience has not been discussed in this review, the community context of stressors can affect the ability of individuals and families to respond. Jerusalem et al. (1995) have classified levels of community effects, where level 1 represents individual levels of stress with little community awareness, and level 3 represents high levels of community awareness and mobilization of resources. Like individuals, communities may experience stressors that demand more than the available resources, generating crises at the community level. Thus, when traumatic stressors occur to too many individuals in a community, the community may not be able to offer sufficient support. A combat deployment, for example, is a stressor that is often externally-imposed, ambiguous, and can involve a variety of daily, chronic and traumatic stressors. When a military community is heavily impacted by a large combat deployment, so many individuals and families may be affected that it is difficult for the community to mobilize sufficient resources to support them.

The role of experience dealing with stressors is not clear-cut. On one hand, experience can be considered an asset in dealing with stressors, in that individuals know what to expect and have been strengthened by their past experiences. On the other hand, experience also can constitute an accumulation of stressors and thus a risk factor. This is especially likely when the intervals between stressors are too small to allow adequate replenishment of resources.

Resilience in Children

Interest in resilience was sparked decades ago when clinicians and scholars noticed that many children whose parents were struggling with mental illness were themselves well-adjusted (Condly, 2006; Luthar, 2006). Research gradually expanded to consider a variety of adverse circumstances including impoverishment, abuse, separation from parents, and death or injury of a family member. In this section, we focus on the individual and family characteristics associated with resilience in children.

Early studies focused on identifying the sources of 'invulnerability,' but this notion proved too simplistic and was replaced by the construct of 'resilience.' Current models of children's resilience emphasize three elements: characteristics of the child (e.g., biological, cognitive, social attributes), support from the family, and support from larger contexts, such as neighborhoods, schools, communities, and societies (Condly, 2006; Luthar, 2006).

Children who display resilience following adversity tend to share two common characteristics. First, they tend to have good cognitive ability, which makes it possible for them to recognize, understand, assess, learn from, and react to their experiences (Condly, 2006; Luthar, 2006). Second, they tend to have temperaments that facilitate good social relationships by, for example, making it easier for children to maintain supportive relationships and successfully seek comfort or assistance from others.

> According to Condly (p. 219), "intelligence and temperament interact so as to allow [children] to understand a situation well, seek out coping mechanisms, not feel sorry for themselves (and thus incur a paralyzing emotional effect), and persist in their attempts to survive and survive well."

These characteristics – intelligence and temperament – are at least in part genetically determined. However, most individual characteristics, even those with strong genetic components, can be altered by interaction with the environment. For example, a growing body of research indicates that the anatomy of children's brains can be compromised by early experiences of depriva-

tion (e.g., Cicchetti & Walker, 2003; Koenen, Moffitt, Caspi, Taylor, & Purcell, 2003).

Temperament is a subset of the more general area of personality. It includes individual differences in basic psychological process that underlie the core of personality. For example, Rothbart and Bates (1998) define temperament as *"constitutionally-based individual differences in emotional, motor, and attentional reactivity and self-regulation"* (p.109). Temperament is biologically based, influenced by genetic inheritance, maturation, and experience. Temperamental characteristics have demonstrated consistency across situations as well as relative stability over time (Bates, 1989; Rothbart & Derryberry, 1981 as cited in Rothbart & Bates, 1998). There is some agreement that the framework for temperament includes broad dimensions of positive affect and approach, negative affectivity (which can be further divided into fearful and irritable distress), effortful control (e.g., distractibility and persistence), and possibly social orientation. These dimensions share similarities with four of the Big Five factors of adult personality: extraversion, agreeableness, conscientiousness, neuroticism, and openness (Costa & McCrae, 1994), but they are not identical.

Difficult temperaments in childhood are of great concern since temperamental difficulty during the early years has been shown to predict behavioral problems in future years (Bates, 1987 as cited by Rothbart & Bates, 1998; Caspi et al, 1995 as cited by Rothbart & Bates, 1998). For example, 3-year-olds who are unusually restless, negative, and prone to emotional overreactions have a high risk of attention problems and misbehavior in adolescence. By contrast, children with an easy or good temperament are less likely to develop behavioral problems.

In addition, which characteristics are associated with resilience depends to some extent on the fit between the individual child's characteristics and the environmental demands and resources (p. 84, Beardslee, 2002). This "goodness-of-fit" hypothesis was first described by Thomas and Chess (1986) who suggested that children benefit when their temperament matches the type that their parents value and are prepared to handle. For example, a child who has a highly reactive temperament is a bad fit with an unresponsive parent and may actually 'train' the parent to respond negatively by escalating their negative bids for attention (e.g., crying, screaming).

Even when children are born with easy temperaments, they will fail to benefit from that advantage if they are not taught to manage how they express their emotions (Luthar, 2006). Thus, children's experiences are always a factor in resilience. In fact, as argued by Luthar, although important, children's individual attributes should be considered *after* family and community support due to their malleability by environmental factors.

Genetic factors can also modify the impact of environments. For example, there are robust sex differences in risk and resilience. Boys have been found to be more vulnerable than girls to a variety of environmental stressors (Rutter, 1987). Similarly, in her study of people on the Hawaiian island of Kauai, Werner (1989) found that boys were more vulnerable than girls to caregiver deficits. During adolescence, girls became more vulnerable but by age 30, the risk of vulnerability had shifted back to men. As explained by Condly (2006), several factors account for boys' vulnerability: the predominance of mother-headed families without male role models; harsher treatment of boys in school and at home; and their less mature neurological and biological development.

Children's early experiences in their relationships with their parents are fundamentally important because they teach children how to act and what to expect in future relationships with others, and maltreatment by parents is one of the most consistent threats to children's resilience. Maltreatment may spring from many sources, including parents' mental illness, marital problems, poverty, or violence at home or in the community (Luthar, 2006). Such families are often characterized by lack of interaction, frequent displays of anger and conflict, and general disorganization of the family system. Parental sensitivity is key: if parents or caregivers acknowledge children's needs for comfort, protection, and exploration, children are likely to develop "internal working models" of themselves as valued and self-reliant. Con-

versely, if parents are insensitive and reject children's bids for comfort or exploration, children are likely to construct internal working models of themselves as unworthy or incompetent (Bowlby, 1973 as cited by Cicchetti, Toth, & Lynch, 1995). In this manner, parents who are unresponsive, inconsistent, or frequently hostile train their children to feel insecure in relationships with others, to escalate negative interactions, to expect to be treated with hostility, and to experience stress in relationships.

The most consistently observed factor for achieving and sustaining resilient adaptation in children is high-quality parenting. Parenting has traditionally been measured along two dimensions: warmth or responsiveness (e.g., support, affection, nurturance, and acceptance) and control or demandingness (e.g., supervision, monitoring, strictness). To promote resilience, there should be ample warmth and appropriate control (Luthar, 2006; Walsh, 2003). Positive outcomes for children are associated with authoritative parenting that combines love and support with clear standards and firm control, whereas poor outcomes have been linked to parents who are permissive and rejecting. For example, children with authoritative parents tend to have good relationships with peers and adults. They are cheerful and self-reliant. In adolescence they show a high level of social competence, achievement, and psychological adjustment (Lamborn, Mounts, Steinberg, & Dornbusch, 1991). Preschoolers with permissive parents show poorer psychological adjustment than those with authoritative parents. Adolescents with permissive parents have high self-esteem but are also high in drug use and misconduct at school with misconduct increasing during high school (Steinberg et al., 1994).

Children with authoritarian parents who are demanding but not responsive also are less well-adjusted and show less independence than those with authoritative parents. At age 4, boys have been found to be somewhat hostile and resistant to authority. Adolescents tend to be high in obedience to adults but low in self-esteem (Lamborn et al., 1991). Children and adolescents with rejecting-neglecting parents have the poorest psychological profile of all. Children exhibit low social competence and in adolescence are likely to have problems with drug use and delinquency (Baumrind, 1991; Lamborn et al., 1991; Steinberg et al., 1994).

Nurturance and support from parents encourage closeness, secure attachments, empathy for others, and good social skills. Setting expectations for behavior and consistently enforcing limits teaches children to regulate their emotional expression and to comply with environmental demands (Walsh, 2003). The balance of warmth and control will shift over the course of development, however, so it is important to match the balance to the developmental level of the child.

One of the reasons that parents are such a powerful protective factor is that they model attitude – they convey a sense of security and confidence that helps their children to feel confident – and they model effective coping, which increases their children's repertoire of coping behaviors. However, only parents who themselves feel more able to cope with stressors are likely to transmit these behaviors to their children (Walsh, 2007).

Although the vast majority of research on parenting of young children has focused on mothers, limited available evidence suggest that other family members also promote children's resilience. Fathers, father-figures, and siblings can be especially important to low income African American families. Research also indicates that extended kin such as grandparents can offer critical support to at-risk children, particularly when parenting is ineffective. However, in each of these examples, as with mothers, these relationships can promote resilience or vulnerability, depending upon the degree to which they are supportive (Luthar, 2006).

Outside of the family, other aspects of the broader community can provide alternative support and help shape children's resilience trajectories both directly and indirectly. For example, research has shown that high quality child care is particularly helpful for children in the most at-risk families (NICHD, 1997, 2002 as cited by Luthar, 2006). K-12 schools can also play a major role as strong supportive relationships with teachers can be highly beneficial for school-age children and adolescents. Peers and social networks can serve as important resources and contexts. For example, peers may support

the development of appropriate social skills and competence; social and emotional support; companionship and intimacy; nurturance; and a sense of self-worth (Parker & Gottman, 1989). In contrast, there is powerful evidence that affiliation with deviant peers can exacerbate vulnerability among at-risk youth (e.g., Moss, Lynch, Hardie, & Baron, 2002; Scaramella, Conger, Spoth & Simons, 2002).

Finally, even though children may lack the cognitive capacity to express the meaning they perceive of the events around them, they may need to construct this meaning later in life, even of very early events. In the example below, William Beardslee, a clinician and researcher, describes the meaning constructed by the child of a depressed mother over a long period of time following the event.

> Jesse's understanding taught me how often understanding is a vital, interactive process. This is above all what needs to be fostered, what the long-term aim of breaking the silence is. Each time Jesse talked about his experience, it helped him through a particular stage, and some of what he learned stayed with him. This eventually led us both to an understanding that he could go ahead with his own life. The act of asking questions and then making sense of things for himself – being the author of his own story – gave him control over what had happened. But it did not give him control because there was a final answer. Making sense for himself became a process that he could use as he needed, not just in dealing with his mother's death, but in dealing with whatever else life might hand him (Beardslee, 2002, p. 182).

Promoting Resilience in Children

A small set of factors have consistently emerged as promoting resilience in children: positive and nurturing relationships with parents and other adults; cognitive skills; the ability to regulate emotions; and self- esteem. According to Sameroff (2006), the most successful interventions are those that incorporate a multi-system approach, are theory driven, and are in place for an extended period of time. One example of a program that incorporates all three of these characteristics is the Early Head Start program. This program is an outgrowth of the Head Start Program and targets low SES families with children under 3-years of age. The purpose of the program is to promote healthy development in children and families. According to Head Start Program Performance Standards, *"the programs are to provide high-quality, comprehensive child development services delivered through home visits, child care, case management, parenting education, health care and referrals, and family support"* (USDHHS, 1995 as cited in Love et al., 2005, p. 886). The program is either home-based, center-based, or a combination of home- and center-based depending on resources available in, and needs of, the community. A recent program evaluation by Love and colleagues (2005) showed that compared to a control group, children who were enrolled in the program showed significantly more cognitive and language development and more positive social development (e.g., demonstrating less aggression). The program also had a positive impact on parenting (e.g., enrolled parents were more likely to provide stimulating environments for children and engage in positive parent-child interactions). According to researchers, the program was most effective when it used the combination approach and provided support for families both in the centers and at home (Love et al., 2005).

Without doubt, the single most influential factor in promoting resilience in children appears to be the presence of supportive relationships especially with parents, but also with adults outside the home. Therefore interventions that target parenting practices, improving parent-child interactions, and fostering additional adult relationships may be particularly useful. Programs that provide high quality child care, which is usually unavailable to high risk families, as well as school interventions that foster supportive relationships with teachers, are especially beneficial since research shows that the benefits gained from these positive and supportive environ-

ments appear to compensate for lack of quality parental relationships (Luthar, 2006). It should be noted that research has also shown that interventions that seek to reduce specific risk factors are not as effective as interventions that target the improvement of larger systems, such as families, schools, and communities (Masten, 2001).

Promoting Resilience in Military Children

The empirical literature on child outcomes as a function of deployment-related experiences is sparse, with few longitudinal studies and little data from the current war. However, a study by Gibbs, Martin, Kupper, & Johnson (2007) reported that among military families with children and at least one substantiated report of child maltreatment, the risk for child maltreatment was 42% greater (risk for moderate to severe maltreatment was 60% greater) during a combat-related deployment compared to periods of nondeployment. Presumably, this is the result of increased parental stress experienced by the nondeployed parent during deployment-induced separation. The authors suggest that increased support for the families of combat deployed soldiers may be necessary. These findings are consistent with the literature and suggest that along with other major stressors, children's outcomes depend a great deal on their parents' responses to the stressor. The most rigorous studies are probably those by Jensen during the first Gulf War, where he was able to observe differences between naturally-occurring groups of children with deployed and non-deployed parents. These studies and others are summarized in the Military Family Research Institute annotated bibliography on Family Separation and Deployment, in a section focusing on Children's Outcomes (available at www.cfs.purdue.edu/mfri). Taken together, results from studies of military families suggest that interventions to promote positive parenting practices and parent-child interactions, along with strategies to help parents to cope with deployment stresses, are well-advised.

Resilience in Adolescents

Many aspects of resilience in children apply also to adolescents (Luthar, 2006), but because adolescents are involved in larger networks of peers and community activities, contexts external to the family feature more prominently in the resilience of adolescents (Beardslee, 2002). Adolescents also have developed more advanced cognitive abilities than children, specifically more refined abilities to think about the perspectives of others and to understand time as it relates to the future, and thus these abilities also contribute to our understanding of resilience. As with children, resilience in adolescents has been examined in relation to personal, parental, and community factors (Aisenberg & Herrenkohl, 2008).

Research on resilience during adolescence began with studies of risky behavior, delinquency, and teen pregnancy. Early intervention efforts tended to focus quite specifically on a single form of problem behavior, but these strategies also proved to be limited in their impact. More recently, research and intervention have moved toward broader approaches aimed at improving prospects in multiple domains (Benson et al., 2004).

Adolescents who demonstrate resilience tend to display certain personal characteristics. Like children, adolescents are more likely to demonstrate resilience when they are free from learning disabilities (Beardslee, 2002), and have easy temperaments that allow them to be flexible. Because adolescents have more advanced cognitive abilities, resilience during this period is also associated with the ability to engage in self-reflection and understanding, to consider situations from multiple perspectives, and to make conscious choices about their actions (Beardslee, 2002; Allen & Hauser, 1999; Allen, Hauser, Bell, & O'Connor, 1994; Allen, Hauser, Borman-Spurrell, 1996; Hauser, 1999).

For example, Beardslee (2002) observed the following characteristics in adolescents who had displayed resilience despite living with a depressed parent: a) they had a well-developed capacity to enter the world of others and to see things from others' points of view (p. 78); b) they were realistic about what they were dealing with. They were able to see that the depression would recur and that they could recognize when it did. They could separate themselves from it and understand that the illness was not their fault; c) they were aware of and could articulate strategies and actions they could take to offset the effects of the illness on them; and d) psychologically, they believed their actions made a difference and they took action based on their understanding. Each

of these abilities, however, is strongly affected by the nature of their relationships with parents.

Adolescents who display resilience are also likely to function effectively in domains outside the family. For example, they tend to have well-developed social skills and have formed close relationships with others (Beardslee, 2002; Fergus & Zimmerman, 2005). By successfully fulfilling their responsibilities in school, jobs, or community activities, they also demonstrate competence (Beardslee, 2002, Scales et al., 2000).

As with children, adolescents' parents have a great deal to do with the degree to which their children display resilience in adverse circumstances (Fergus & Zimmerman, 2005). Parental warmth and closeness appears to support the development of resilience, when combined with reasonable, firm and consistent limit-setting (Aisenberg & Herrenkohl, 2008; Luthar, 2006). Because adolescents typically spend less time than children with their parents, parental knowledge of adolescents' whereabouts and activities becomes particularly important during this time. Parental knowledge is the joint product of adolescents' willingness to share information with their parents, and parents' persistence and competence at seeking such information, also known as parental 'monitoring' (Fergus & Zimmerman, 2005; Luthar, 2006; Stattin & Kerr, 2000).

For more than two decades, the Search Institute has promoted the notion of "developmental assets," 40 characteristics of individuals, families, schools, and communities that are thought to support and promote positive youth development. Developmental assets include internal characteristics such as social competence and positive values, and external resources such as social support and being given boundaries and expectations (Benson, 2006). Using this framework, Scales et al. (2000) examined the role of developmental assets in predicting positive outcomes in a sample of 1000 youth from six ethnic groups. In general, youth with more assets had more positive outcomes. Assets that predicted multiple positive outcomes were time in youth programs, cultural competence, self-esteem, personal power, planning and decision-making, and achievement motivation. There were also age and gender differences, such that girls reported more school success, more ability to resist dangerous situations and more helping behaviors; while boys reported more leadership activities, and more ability to overcome diversity.

In a landmark decade-long study of the processes through which external stressors affect the lives of adolescents, Conger and Elder (1994) examined the economic crisis in Iowa's rural economy. A large sample of adolescents living in intact families provided data for the longitudinal analyses. When economic conditions worsened, parents who themselves as children had experienced more distress and rejection were less likely to feel confident in dealing with the new stressor and in seeking help. As a result, they were more likely to develop symptoms of depression resulting in hostility toward their marital partners. Hostility in the marital relationship led to harsh and inconsistent discipline of adolescent children. Subsequently, girls displayed reduced self-confidence and psychological well-being whereas boys displayed increased antisocial and hostile behavior. This negative spiral was interrupted in families when spouses were able to support one another instead of becoming hostile, and when support from older siblings protected younger children from parents' hostility.

When these farm parents were nurturing and involved, even under significant economic pressure, youth were confident and well-adjusted in terms of their academic and social competence. They developed close relations with peers and exhibited fewer behavior problems and emotional distress (Conger & Conger 2002). Youth whose parents displayed warmth, effective management and low hostility were less likely to develop conduct problems and adolescent girls often at risk for depression experienced lower rates of depression.

Because adolescents' social worlds include both peers and involvement in community activities such as education, sports, and public service, resources in these settings also can support the development of resilience in adolescents. For example, peers, teachers and adult mentors can provide emotional and instrumental support. These outside sources are, however, distal influences relative to the proximal influence of parents and

thus are likely to have less powerful effects (Theokas et al., 2005).

Peer support appears to be helpful in three ways. First, peers may be able to provide needed support that parents were unable to provide. Second, peers may live in well-functioning families that can serve as models to troubled families. Third, peers may strengthen children's and adolescents' connections to schools and other social institutions (Luthar, 2006). However, peers may also increase risk. While support from peers can help children and adolescents to be resilient in the face of adverse circumstances (e.g., parental divorce), rejection by peers leads to worse outcomes in several domains.

Despite the resilience offered by individual assets and supportive family and peer relationships, the high risk associated with living in disadvantaged and violent communities can be difficult for youth to overcome.

> …"adolescents are unlikely to thrive when they face difficult experiences across multiple settings of their lives, even if they possess the personal resources, or resilience, to deal with a challenging environment.… under the weight of multiple and chronic stressors, including poverty, racism, maternal depression, and low social cohesion within neighborhoods, healthy parenting norms and positive parent-child bonds may become less protective when considering both the immediate (proximal) and long-term (distal) outcomes of community violence exposure." (Aisenberg & Herrenkoh, 2008, p. 306).

Promoting Resilience in Adolescents

Evaluation of interventions for promotion of resilience in adolescents has produced mixed results. However, the programs discussed here have shown considerable promise. The Life Skills Training (LST) is a school-based, individual-level intervention that has been rigorously evaluated and found to be effective in increasing interpersonal and communication skills, decreasing risk-taking, and decreasing substance abuse among adolescent participants (Botvin & Griffin, 2004). LST reflects a resilience perspective as it focuses in the development of integral individual assets for healthy and effective social interaction (Fergus & Zimmerman, 2005).

Other than individual-level interventions, a number of programs enhance resiliency through their focus on building positive relationships (Fergus & Zimmerman, 2005). The enhancement of family relationships is the focus of these programs, as they seek to promote the family as a primary resource of strength for the adolescent. Preparing for the Drug Free Years (PDFY) as well as Iowa Strengthening Families (ISF) are examples of programs that focus both on parental skills as well as adolescent prosocial skills. While both are classified as brief interventions, both were found to have treatment-control differences in delayed initiation of substance use, current use, and composite use (Spoth, Redmond, & Shin, 2001a). Significant effects were also exhibited 4 years later for both interventions (Spoth et al., 2001b). Another program that focuses on building individual assets and skills is the Resourceful Adolescent Program (RAP). While considered an individual-level intervention, the Resourceful Adolescent Program also addresses the important role that parents and families have on the development of adolescent resiliency. The RAP includes a three-session parallel program for parents designed to address the risk factors of family conflict and the protective factors of a responsive and warm parent-adolescent relationship (Shochet et al., 2001).

The interventions discussed above are examples of the types of interventions that have been found to be effective in increasing adolescent resiliency. Their focus on enhancing adolescent assets and resources is in stark contrast to the more traditional method of focusing on the reduction of negative factors in adolescents' lives (Fergus & Zimmerman, 2005). In the literature for adolescent drug prevention, for example, the most effective research-based interventions have been those that have focused on psychosocial risk and protective factors rather than interventions that provided didactic presentations of factual information about risks (Botvin

& Griffin, 2004).

> According to Katz (1997), the key to developing resiliency in children is opportunities, both plentiful and meaningful. Opportunities to rest from resisting a hostile environment, opportunities to explore in safety and security, opportunities to believe and to dream; all these need to be given to at-risk children if they are to have any chance at all of making it out of their dire circumstances successfully" (Condly, 2006, p. 228)

Promoting Resilience in Military Adolescents

Huebner & Mancini (2005) conducted a qualitative research study of adjustment among adolescents in military families. Results indicated that overall, adolescents were able to adapt to their parent's deployment and exhibited resilience. An interesting finding was that adolescents varied in regard to seeking social support. While some chose to confide in parents, friends, teachers, or counselors, others preferred to refrain from discussing their feelings about the situation. Not surprisingly, *"adolescents who felt supported by others seemed to evidence enhanced resiliency, that is, their personal coping skills were complemented by support"* (Huebner & Mancini, 2005; p. 5). These results are consistent with findings from civilian populations and suggest that the best interventions are those that provide development of, and involvement in, social support networks. In addition, interventions that provide support for the at-home parent and educate the community and school officials are perceived as helpful.

Resilience in Adults and Families

Research on resilience in adults has proceeded along a somewhat different course than research on children and adolescents. One difference is that research on adults has focused more heavily on personal characteristics. Another difference is that resilience in adults has been observed mostly in response to traumatic events or disasters, while resilience in children and adolescents has been understood largely in relation to chronic stressors such as parental illness or neglect, impoverishment, or community violence (Bonanno, 2005).

Adults have been studied most often as parents whose behavior affects the resilience of children or adolescents, although more recent studies have focused on adults as individuals. Research on parents has shown that children are more likely to display resilience when their parents model a positive attitude, flexibility, taking initiative, and effective coping skills (Walsh, 2007).

Research on adults as individuals has focused heavily on 'hardiness,' a personality trait thought to predict resilience in difficult situations. Hardiness comprises three elements: a sense of purpose in life, a sense of personal control over situations, and a welcoming attitude toward change (Kobasa, Maddi, & Kahn, 1982). Other studies have shown findings similar to studies of adolescents: relevant personal characteristics for adults include cognitive ability, flexibility, optimism, effective social skills, and the ability to complete tasks.

Several studies have focused on hardiness in military members as a factor predicting responses to combat trauma. For example, Bartone (1999) compared six Army National Guard and Reserve medical units, some of whom deployed to Operation Desert Storm, some to Germany, and some who remained in the U.S. Stressful life events and exposure to combat trauma strongly predicted later psychological symptoms, but hardiness was also a significant predictor. Notably, hardiness not only predicted symptoms by itself, but also weakened the power of life events and combat exposure to produce later psychological symptoms.

Because resilience focuses on responses to adverse events, there is considerable overlap between the study of resilience in adults and the study of coping. Although it is very common for studies of coping to find that active coping strategies that focus on solving the problem are more effective than strategies that focus on managing emotions, some studies have unexpectedly found that individuals displaying resilience resist expressing negative emotions in favor of more positive

ones. While this behavior would sometimes be labeled denial and considered problematic, in the aftermath of adverse events it may be adaptive by reducing personal trauma and isolation from others (Bonanno, 2005).

Since early studies of resilience focused on children growing up in adverse or impoverished family circumstances (Walsh, 2003), researchers initially focused on families as sources of risk rather than resilience. As a result, there are fewer empirical studies of resilience within families than among children. But as had occurred with children, researchers observed that some families appear to function effectively despite facing difficult circumstances and sought to identify the defining features of those families.

Studies of family resilience recognize that families are systems, in which all members are affected by what happens to any individual member or the family as a unit (Walsh, 2003). Families are characterized by interaction patterns that can 'ramp up' or 'damp down' responses to negative events (Walsh, 2003). Thus, family resilience has been defined as, "characteristics, dimensions, and properties of families which help families to be resilient to disruption in the face of change and adaptive in the face of crisis situations" (p. 247, McCubbin & McCubbin, 1988).

The best-known articulation of resilient processes in families is that of Walsh (2002, 2003, 2007), who identified 9 key processes in the categories of belief systems, organizational patterns, and communication/problem solving. In a recent review of existing research, Black & Lobo (2008) included an additional category of effective use of external support from social and community networks.

Belief systems include the ability to maintain a positive outlook, a sense of coherence and to find ways to learn and grow despite adverse events (Walsh, 2007). Spirituality can help family members to have a shared value system that can help give meaning to challenging events. Just as with individuals, when families approach challenges with a sense of optimism, confidence or hope, and a positive emotional atmosphere, the evidence suggests that families are likely to do better. For example, positive outcomes have been found in the areas of adolescent risky behavior and marital satisfaction (Black & Lobo, 2008).

Competent execution of key family tasks also appears to be a common characteristic of families who display resilience. For example, families are more likely to be resilient when they have clear allocations of roles, but are also able to adjust those allocations when challenging circumstances require it. Resilient families are also more likely to communicate and manage behavior and relationships effectively. Specifically, they are able to share information, solve problems together, and manage behavior with appropriate use of warmth and limit-setting. Another skill more likely to be evident in resilient families is financial management, comprising sound practices and the ability to compartmentalize financial problems so that they do not reduce warmth in family relationships (Black & Lobo, 2008; Walsh, 2007).

Certain family behaviors are especially likely to be evident in families that display resilience. For example, resilient families are more likely to spend time together, and to use that time to support and nurture family relationships, regardless of whether it is leisure time or time spent doing tasks. Resilient families also tend to have routines and rituals that promote closeness, and are maintained even in difficult times (Black & Lobo, 2008).

One of the most notable studies of family resilience followed 451 families in rural Iowa for more than a decade as they weathered the economic farm crisis of the 1990s. One of the major goals of the study was to study resilience as a dynamic process, developing and changing within families over time. The long period of data collection allowed the researchers to study true causal influences (rather than the correlational relationships to which most existing studies were limited), and to isolate the resilience processes that appeared most important for later outcomes.

The researchers found that individuals with a strong sense of personal mastery and control were less likely to experience increases in depressive symptoms as a result of economic strain, and were likely to cope more ef-

fectively. They also found that spouses who understood and supported one another, and who could solve problems effectively were less likely to experience increases in emotional distress (Conger & Conger, 2002).

Promoting Resilience in Families

In general, interventions that aim to promote resilience on a variety of levels and in multiple contexts have been shown to be more effective than those that target specific mechanisms of resilience or seek only to reduce risk (Masten, 2001). In the context of families, this would indicate interventions that seek to improve not only parent-child relations (e.g., communication), but also marital and overall family relationships. According to Saltzman and colleagues (under review) parents appear more likely to participate in interventions where the focus is on children and improving family relationships, as opposed to the marital relationship. An example of one such program is the FOCUS (Families Overcoming and Coping Under Stress) Program. The FOCUS program was first used with military families at Camp Pendleton and has since been used with families in Florida who suffered losses during the 2004-2005 hurricane seasons, as well as with families in which a child has suffered a medical trauma. The program has adult/parent, child(ren), and family components and is usually delivered in eight sessions, though the length of treatment is determined by the needs of the family. The goal of the intervention is to promote healthy development in children by increasing positive family relationships and coping skills through the use of psychoeducation, cognitive-behavior therapy, and narrative. In addition, in keeping with a strengths-based model, family strengths, adaptive coping responses, and available resources are highlighted throughout treatment.

The FOCUS program is based, in part, on several other programs which have produced favorable results. One such program is an intervention used with families in which the mother has been diagnosed with HIV. This intervention program uses three modules. The first module is for the mother only and focuses on emotion regulation, promoting a healthy lifestyle, and disclosure of illness. The second module integrated both the parent and the adolescents; sometimes the sessions included both and sometimes sessions were individual. In this module the focus was on the reduction of emotional distress and maintenance of positive family routines for the parents and on learning and enhancing coping skills for the adolescent. The overarching focus of this module was to reduce the risk that adolescents would engage in high-risk behaviors (e.g., risky sex) as a method of coping with the parent's illness and eventual death. The third module was only given to those adolescents whose parents died during the study period. Results from the study showed that adolescents who received the intervention had better developmental outcomes (e.g., more likely to be employed), were less likely to report somatic symptoms, better quality intimate relationships, better problem-solving skills, and were less likely to have a child out of wedlock (Rotheram-Borus, Lee, Lin, & Lester, 2007). Findings such as these show promise for promoting both individual and familial resilience using family-focused interventions.

Insights about Resilience in Military Families from MFRI Research

The Military Family Research Institute (MFRI) has studied resiliency as part of its research program on quality of life for military members and their families. One aspect of this research program has been a focus on transitions. Family transitions create change and call for family reorganization and adaptation. Transitions can bring changes in structure, shifts in family roles, and tensions created by the needs of individual family members, all of which can generate stress.

Deployment and reunion are examples of especially demanding transitions for military families. Unlike other studies that document return and reunion experience at one point in time, MFRI's research has focused on the reunion *process*– how the reunion of family members unfolds over time. In one project, over seven waves of semi-structured interviews conducted with Army reservists and their families over a 12-month period following wartime deployment, MFRI sought to identify the challenges families faced and the resources they perceived as promoting their resilience during this period in three separate studies.

The first study (Faber, Willerton, Clymer, MacDermid & Weiss, 2008) examined the boundary ambiguity associated with a family member's presence or absence or what Boss (2002) refers to as *ambiguous loss*. Deployment was characterized by ambiguous absence–the reservist's psychological presence but physical absence within the family. During deployment, boundary ambiguity was mainly associated with safety and the redistribution of roles and responsibilities. Reunion was characterized by ambiguous presence–the reservist's physical presence but psychological absence. Once again, boundary ambiguity centered on redistribution of roles and responsibilities. Reunion was more difficult for families transitioning from a closed to an open communication system. Factors which were perceived as reducing boundary ambiguity and hastening adjustment included person characteristics (being flexible as opposed to controlling), and situation characteristics (returning to civilian work, which "normalized" routines and roles).

The second study (Karakurt, Christiansen, MacDermid & Weiss (under review) examined romantic relationships and how couples changed over time following wartime deployment using the lens of family stress and attachment theories. Four main themes were identified: intermittent idealized closeness, transition from independence to interdependence, transitions of social support, and ongoing renegotiation of rules. Intermittent idealized closeness was experienced shortly upon return, fluctuated over time, and was rarely synchronized within couples. The transition from independence to interdependence also emerged early with partners reporting more difficulty than reservists. Social support and role renegotiations surfaced later in the reunion process. Participants needed time before relying on each other for support; partners reported more support from reservists than vice-versa. Role renegotiation occurred throughout the year often in response to life events and/or job transitions. As in previous research (Wiens & Boss, 2006), flexible gender roles and social support served as protective factors.

The third study (Wiegand, Bull, Green, MacDermid, & Welch, in preparation) explored the return to civilian employment and how reservist repatriates' work adjustment unfolded over time. A process model was developed consisting of four stages: Return Home, Return to Work, Activation, and Settling In. Factors such as job expectations (anxiety about forgetting previous work details, uncertainty about workplace change), influenced early reports of adjustment whereas perceived advancement opportunities, and career-orientation were more important later in the process. Perceived similarity between military and civilian jobs, perceived organizational support from coworkers and supervisors, communication during deployment, and opportunities for retraining positively influenced work adjustment and enhanced worker re-socialization. A lack of fit between the individual and the organization, and poor family adjustment (and work-family conflict) hindered it.

Moving every few years represents another type of transition that can pose unique challenges to all family members. Similar to deployment and reunion, there are challenges and stressors before, during, and after the physical relocation. Using a conceptual model of resilience and risk, MFRI examined the moving experience (Schwarz, MacDermid, & Weiss, 2007) to understand how opportunities and constraints associated with schools, workplaces and communities related to children's and parents' ability to navigate transitions.

Pre- and post-move data were gathered from 1,083 Army and Air Force respondents moving during the summer and school year via large-scale surveys of members, spouses, and children. The model addressed macro-level aspects of demands, appraisals, responses, and outcomes. Resilience and risk was measured at three broad levels (1) the individual (e.g., traits such as intelligence or social skillfulness; (2) the family (e.g., parental warmth or maltreatment); and (3) the community (e.g., neighborhoods and social supports).

A variety of resilience factors helped adults and children/individuals cope with the challenges of relocation and enhanced psychological well-being. Individuals with more *human capital* (positive self-evaluations, sense of mastery, optimism, good physical and psychological health; skills acquired from education, training, and experience, high role balance, life satisfaction) and *social capital* (marital satisfaction, better family functioning,

responsive and effective parenting, social competence and involvement in group activities) expected and experienced easier moves. Our findings also highlighted the importance of measuring both "person" and "situation" factors (Lazarus & Folkman, 1984) in evaluating demands or stressors. Persons with external loci of control or high negative affect seemed to be at risk not only for the more frequent occurrence of negative events, but also the more negative evaluation of events when they occurred. For example, members who appraised the move as difficult also tended to be pessimistic. In this study, individuals who sought the situation and who appraised the situation as clear and predictable (Boss, 2001) found the move easier; whereas those who were anxious about the move and felt that the situation had important consequences found the move more difficult. Important coping strategies included remaining positive; balancing work and family; using informal (i.e., support from family, friends, co-workers, unit leaders, child's teachers) and formal support (i.e., religious organizations); and being engaged with school. Our results also indicate that positive adjustment was related to child age, parental gender, and time of move. For example, moving with older children was more difficult than moving with younger children; moving during the summer was easier for children but more difficult for parents, and indicators of risk/resilience (e.g., physical health, family functioning, role balance, and anxiety) were associated with different outcomes for members and spouses.

Future Research Needs

To date, few studies have been published that document the impact of OIF/OEF deployments on military families and children, in part because the war is ongoing and there has not yet been time to complete the research and the manuscripts. The length of the war and the required multiple deployments appear to have created unique and difficult challenges for all family members. For example, the recent MHAT V (2008) found that that multiple deployments exacerbated mental health and other problems associated with deployment. This suggests that we need to improve our understanding and knowledge of resources that may help or hinder resilience in military children, youth, adults, and families. The Department of Defense Task Force on Mental Health also recommended additional research attention to military families.

Longitudinal Research

Long-term research is urgently needed on the effects of multiple wartime deployments on families, including children. To the best of our knowledge, no long-term study of the effects of single or multiple deployments on families, including children, has ever been conducted. Such studies are challenging for many reasons, including expense, the burden of such studies on families, the high mobility of military families, lack of complete information about which service members have children (particularly in the reserve component), and protectiveness of military research boards. However, prospective longitudinal analyses are necessary if we are to illuminate trajectories of competence and/or maladjustment of military parents and children.

Critical areas of focus for such research differ as a function of the ages of the children involved. Young children may be more susceptible than older children to disruptions in their attachment relationships, which may have long-term consequences for their ability to regulate emotions and manage their behavior in the future. The intellectual development of some young children also may be threatened by parental separation early in life. Older children may be at special risk of engaging in risky behavior, increasing their chances of early pregnancy, drug use, school dropout, or other conduct disorder problems. However, deployment also can present positive opportunities for children to grow and learn new skills, which are also not well-understood.

Since quality parenting is among the most robust predictors of resilience adaptation (Luthar, 2006) such research needs to include a full accounting of those factors that have the potential to interfere with quality parenting including individual attributes, objective demands or stressors, appraisals and response to stress, as well as family and relationship functioning. Although many findings from the civilian literature are likely to apply to military families, it is also true that the profiles of stressors and resources among military families are distinct and thus require study.

Research also needs to pay attention to the characteristics of the wider social environments of military families. For example, we currently don't know how many military children are living in dangerous neighborhoods or facing other contextual risk factors. This is especially true among reserve component families.

Timing is also an important factor to consider. Evidence from the civilian literature indicates that there is considerable variability in the timing and nature of individual response to trauma. More research is needed on how people respond across time (e.g., short-versus longer-term response with special attention to the early weeks following challenging events, such as the departure or return of a parent). Research is also needed on the timing and duration of exposure to protective factors in order to ascertain the most opportune times for intervention (Aisenberg & Herrenkohl, 2008). For example, findings on parental supervision and monitoring of youths' activities has been shown to reduce or overcome exposure to risk such as peer pressure to engage in antisocial activity (Patterson & Stouthamer-Loeber, 1984; Steinberg, 1986).

A promising area for research is identifying best practices for building resiliency. Although it is generally thought that many personal attributes among individuals exhibiting resiliency may be relatively fixed, the latest literature suggests that those attributes may be optimized – that is resilience can be taught. For example, findings have shown that that trait self-enhancement or the tendency to self-serving biases may be associated with positive coping and healthy functioning following trauma (Bonanno, 2005). Self-enhancement is a form of pragmatic coping with a particular stressor event. However resilience has also been linked to flexible coping or flexible adaptation (Block & Block, 1980; Bonnano et al., 2004 as cited in Bonnano, 2005). Since flexible adaptation can be measured and manipulated under different stressor conditions, it should be possible to determine how and under what conditions it might be learned.

Special populations merit attention. For example, our own research indicates that family care arrangements are very difficult to make and execute in time for deployment for dual-military and single-parent families posted overseas. Individual augmentees and their families are often 'orphaned' during the deployment cycle, overlooked for reintegration training, welcome home ceremonies, and quality of life supports. Young spouses in new marriages and foreign spouses are seen as at high risk for isolation and poor functioning during deployment. Single service members experience difficulty maintaining social relationships and receiving reliable logistical assistance during deployment. They feel ambivalent about welcome home ceremonies. Supervising children during deployment is complicated not only by the absence of a parent but also by limited availability and accessibility of programs for children.

To date little research has focused on families in the reserve component. Unlike active component families, reserve component families have less access to military social support organizations and fewer connections to other military families. Moreover, as they are less accustomed to adjusting to deployment than their active duty counterparts, they may struggle to find support within their communities. For example, reserve component members report psychological concerns three months following deployment at substantially higher rates than active component members.

Communication has received little attention in the literature. Previous research suggests that service members vary in the amount of time they are able and willing to spend communicating with their families at home (MacDermid, Schwarz, Faber, Adkins, Mishkind, & Weiss, 2005). Anecdotal evidence indicates that new modes of communication (e.g., e-mail, web cams, internet telephone, cellular phones, blogs and videos) are now being used in addition to the "old fashioned" land line phones and letters. What role does availability, frequency, content, and quality of communication play in strengthening and sustaining the resilience of spouses, children, siblings, and parenting relationships?

Prehaps most pressing is the urgent need for information on military families where members have sustained physical injury or mental health disorders. Such families may incur additional stress from the point of noti-

fication, through the period of acute treatment, rehabilitation, and recovery (Cozza, Chun & Polo, 2005). Data indicate that many returning service members may suffer from unrecognized psychiatric illness, including post traumatic stress disorder (PTSD), depression, substance use disorders or other conditions (Hoge, Castro, Messer et al., 2004). Children may not understand the extent of an injury, particularly one without visible physical wounds or they may be frightened by their parent's external wounds. The nature of the information that parents share with children may or may not be developmentally appropriate. The impact of these conditions on families and children is unclear, but is likely to be significant.

Materials and Programs for Families

Research on the availability and effectiveness of materials to help families respond to extended and multiple deployments, reunion, and death or injury is lacking. In searching the websites of OneSource, the military services, and DoD to look for the availability of materials on these topics, MFRI found that, in general, there were more materials available for deployment than reunion, and more materials regarding reunion than death or injury. Most deployment materials did not deal specifically, however, with extended or multiple deployments. There was uneven coverage of materials for families with children of different ages. The largest gaps appeared to be: (a) information for pre-teen and teenage children with notable absence of information for blended/step families and step siblings who share a parent, but not a physical household. Major Keith Lemmon's work preparing materials for adolescents and mobilizing the American Pediatric Association is notable here. (b) information for children of wounded parents, though the new Sesame Street materials will certainly be helpful here; and (c) medical discharge due to serious wound(s), especially when the service member is a single unmarried person.

Research is also needed on the timing of providing information and support to families of deployed members. Currently there is no research on this topic. We are aware, however, of anecdotal suggestions that when they occur too close to the actual deployment, the impact of pre-deployment briefings may be limited because families are already anxious and because of limited time to carry out all of the necessary activities.

There is also no research on how the dissemination of materials to the Armed Forces can be improved. Our impression is that Status of Forces Survey data, like surveys of civilian workers, tend to show that large percentages of service members and family members do not have accurate knowledge of the benefits and resources available to them. Part of the difficulty in the military, of course, is the plethora of resources that are offered by a complicated patchwork comprising DoD, the services, civilian support agencies, and state governments. We are impressed, however, with the degree to which Military OneSource has become a well-known brand, and its accessibility to active and reserve component families around the world. Continued and increased efforts to grow this brand may be helpful.

There is also no quality-controlled research on the effectiveness of the training materials for family support professionals. We also have found no research on the effectiveness of transition programs and policies in identifying signs and symptoms of mental health conditions for service members and their families.

Conclusions and Implications

Most individuals and families experience adverse events and circumstances sometime in their lives, and when they do, most respond with resilience , going on to live well-adjusted lives. Nonetheless, a significant minority of individuals and families find it difficult to adjust following adversity and suffer a variety of negative outcomes as a result. Thus, resilience is a relevant concern for military policy-makers.

Because resilience can only be observed as individuals and families cope with adverse events, it is difficult to be certain in advance that someone will be resilient. There is evidence to suggest that children with certain characteristics may lack the skills and abilities necessary for resilience, however. In addition, resilience develops over a long period of time, supported by a variety of personal, family and community factors. Thus, while single predeployment briefings or written brochures may be useful, their impact on resilience is likely limited.

While early researchers thought of resilience as a personality trait, largely stable and with a large biological component, subsequent studies have shown that resilience is largely a learned capability that is not necessarily stable across settings or over time. The characteristics of environments around individuals or families can make adjustment harder, such as when community resources are depleted by poverty, violence, natural disasters, or other large-scale events. There is evidence that resilience-related skills and abilities can be systematically improved, and that individual and family resilience can be supported in part by community-level action.

Stressors may be classified along a number of dimensions. Military children and families regularly experience several particular types of stressors, including daily hassles such as long parental work hours; chronic stressors such as being 'different' from civilian children; and potentially traumatic stressors such as parental absence, injury or death. Each of these stressors increases the risk of negative outcomes, and the occurrence of one kind of stressor may increase the likelihood that others will occur. Stressors that 'pile up' are more likely to exceed the resources that individuals, families or communities can marshal to cope. Thus, prior experience with stressors, instead of being helpful, may contribute to pile-up if coping resources are inadequate and there is insufficient time for recovery. For example, a combat deployment preceded by a lengthy and intensive period of parental preparation with long work hours and followed very shortly by a PCS move is likely to tax families more than the deployment alone. Given the need for constant readiness among military families, ongoing stressors may need to be monitored to ensure they are not compromising readiness.

Early childhood and adolescence are both particularly important periods for investing in resilience. During early childhood, the physical structure of the brain is still developing, and thus both cognitive capacity and later resilience are vulnerable to insufficient stimulation during that period. For this reason, prolonged parental absence during infancy is a serious concern. Adolescence is a second very important period because substantial physical and cognitive changes occur. This is also a period where individuals make decisions that have strong effects on later life trajectories (e.g., such as whether or not to engage in substance abuse or premature sexual behavior).

Given that adverse events are not completely avoidable, if only one strategy could be undertaken to increase the likelihood that children and adolescents would have the skills and abilities necessary for resilience, the existing evidence indicates that one thing should be to ensure that every child and adolescent is treated with ample warmth, appropriate limits, and competent monitoring. When these are provided, individuals are far more likely to develop the social, emotional and coping skills they need to face difficult challenges. If a second strategy could be implemented, the evidence suggests that it should be to provide children and adolescents with opportunities to develop supportive relationships outside the family that provide both warmth and structure, such as with peers, teachers, and mentors.

Stressors have characteristics, and coping with particular kinds of stressors may require particular kinds of skills. For example, coping with stressors that are highly ambiguous may require different skills than coping with stressors that are very clear. It may be wise to identify the most common characteristics of the stressors faced by military families and develop strategies to maximize the development of skills that are a good match to those stressors.

Military children, particularly children of parents serving in the reserve component, may require special support to help them develop skills and abilities for coping with military life. To the extent that such children have few opportunities to develop close supportive relationships with peers and adults other than their parents who are familiar with military life and knowledgeable about effective coping, children in the reserve component may be poorly prepared for the challenges of parental separation, injury, or death.

Resilience in adults affects not only their own long-term outcomes, but those of their family members. Parents who model resilience improve their children's skills and abilities to be resilient. Spouses who respond to adverse

circumstances with resilience make it easier for their partners to weather challenges and in so doing reduce the negative consequences for other family members. Adults who display resilience respond to challenges with flexibility, positive attitudes, effective management of emotions, and competent use of formal and informal supports. Although adults, like children, vary in the degree to which their personalities or temperaments equip them for resilience, it may be possible to learn skills that will maximize the resources they do have. Environmental factors also can affect the degree to which adults are able to successfully secure the resources needed to cope with challenges. Large-scale challenges may tax the ability of community systems to respond to requests, provide services, or offer support, each of which can interfere with adults' abilities to cope.

There is evaluation data on interventions to prepare children, adolescents, adults and families for resilience in the aftermath of adverse circumstances, although most of this research has been conducted with civilian populations and has not been focused on the specific challenges endemic to military life. Scientific consensus has not yet emerged regarding which approaches are most effective under which circumstances. In general, it appears wise to focus on approaches that promote skills likely to be useful in a variety of settings, and approaches that address family and community systems as well as individual skills and abilities, but there is much yet to be learned, especially about military families.

Military members and their families are repeatedly taught that they must be ready to serve wherever and however they are needed. Fundamentally, readiness is about resilience. 'Ready' families are well-prepared with the skills and abilities they will need to respond with resilience when they are faced with challenging circumstances, whether those be chronic stressors, daily hassles, or traumatic events. Broader awareness and dialogue about the components of resilience and effective methods for promoting it may encourage the embedding of preparation for resilience in family support and prevention activities throughout the military.

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