

Is There Intergenerational Transmission of Trauma? The Case of Combat Veterans' Children

Rachel Dekel, PhD
Bar-Ilan University

Hadass Goldblatt, PhD
University of Haifa

This article is a review of the literature on intergenerational transmission of posttraumatic stress disorder (PTSD) from fathers to sons in families of war veterans. The review addresses several questions: (1) Which fathers have a greater tendency to transmit their distress to their offspring? (2) What is transmitted from father to child? (3) How is the distress transmitted and through which mechanisms? And finally, (4) Which children are more vulnerable to the transmission of PTSD distress in the family? Whereas the existing literature deals mainly with fathers' PTSD as a risk for increased emotional and behavior problems among the children, this review also highlights the current paucity of knowledge regarding family members and extrafamilial systems that may contribute to intergenerational transmission of PTSD or to its moderation. Little is also known about resilience and strengths that may mitigate or prevent the risk of intergenerational transmission of trauma.

Keywords: PTSD, war, fathers, secondary traumatization, intergenerational transmission

Clinical observations and empirical research have shown that the consequences of traumatic events are not limited to the persons immediately exposed to the event, and that they often affect significant others in their environment such as family, friends, and caregivers. Such effects include a variety of posttraumatic manifestations such as headaches, breathing difficulties, intrusive imagery, heightened sense of vulnerability, difficulty trusting others, and emotional numbing. A variety of terms have been used to describe this phenomenon, for example: "Secondary traumatization" (Rosenheck & Nathan, 1985), "secondary traumatic stress (STS)" (Figley, 1995), "covicictimization" (Hartsough & Myers, 1985), "secondary survivor" (Remer & Elliott, 1988), "traumatic countertransference" (Herman, 1992), and "vicarious traumatization" (McCann & Pearlman, 1990).

The research on secondary traumatization drew on studies of Holocaust survivors' families, which has been the major field of study in this area. A series of meta-analyses revealed that in the set of adequately designed nonclinical studies, no evidence was found that the parents' traumatic Holocaust experiences had influenced their children (Van IJzendoorn, Bakermans-Kranenburg, & Sagi-Schwartz, 2003). Nevertheless, secondary traumatization emerged only in studies on clinical population of offspring who tend to suffer from mental distress, have difficulties in separation—individuation, and perform a contradictory mix of resilience and vulnerability when coping with stress (e.g., Kellerman, 2007; Solomon, 2007).

The current article examines whether there is evidence of secondary traumatization in families of war veterans. In other words,

do war combatants transmit their distress to their children? We will also try to identify conditions in which this transmission is more likely to occur. In contrast to Galovski and Lyons's (2004) review, which focused on the effects of the war veteran father's distress on his whole family, the current review will focus exclusively on the aspect of intergenerational transmission from fathers to their offspring. Following a model that was applied for families of Holocaust survivors (Kellerman, 2007), we will examine the following questions:

1. Which fathers have a greater tendency to transmit distress to their offspring?
2. What is transmitted from father to child?
3. What are the mechanisms of transmission?
4. Which children are more vulnerable to the transmission of posttraumatic stress disorder (PTSD) distress in the family?

Our literature review reflects a literature search based on the following terms: trauma, PTSD, war, veterans, sons, parents, and intergenerational transmission. This search revealed 16 empirical studies describing 17 research projects. In addition, we found five articles that were clinical papers, and one article describing intervention with children whose fathers had PTSD. We did not include studies on former prisoners of war and doctoral dissertations (for a summary of the empirical studies, see Table 1).

Which Fathers Transmit Distress to Their Offspring?

The question is whether intergenerational transmission takes place in all families where the father participated in combat, or whether the risk is greater in families where the veteran father suffers from PTSD. Examining the literature revealed that in most studies, the fathers who were examined had participated in combat and were diagnosed with PTSD (e.g., Davidson, Smith, & Kudler,

Rachel Dekel, PhD, School of Social Work, Bar-Ilan University, Ramat-Gan, Israel; Hadass Goldblatt, PhD, Department of Nursing, University of Haifa, Haifa, Israel.

For reprints and correspondence: Rachel Dekel, PhD, School of Social Work, Bar-Ilan University, Ramat-Gan 52900, Israel. E-mail: dekell@mail.biu.ac.il

Table 1
Summary of the Literature on Intergenerational Transmission of Posttraumatic Stress Disorder (PTSD) From Fathers to Sons in Families of War Veterans

Authors	Sample	Father's status	Nationality/war	Findings
Ahmadzadeh & Malekian (2004)	141 high school students, fathers veterans with PTSD, compared with 141 similar students, fathers are not veterans	Chronic PTSD	Iranian	A higher rate of aggression and anxiety among research group. No significant difference in social development
Beckham, Braxton, Kudler, Feldman, Lytle, & Palmer (1997)	40 children, 20 male, 20 female (ages 14–35 years; $M = 20.1$) of 28 Vietnam War veteran fathers	Help-seeking veterans with PTSD	American/Vietnam	78% of the children had at least one elevated scale on the Minnesota Multiphasic Personality Inventory; 40% used illegal drugs; 35% reported behavioral problems; 15% reported previous violent behavior; 45% reported significant PTSD signs; 83% reported elevated hostility scores
Casseli & Motta (1995)	40 male Vietnam War veterans (ages 39–67 years, $M = 44.7$) and 24 wives	Vietnam veterans	American/Vietnam	Child behavior problems predicted primarily by PTSD rather than by combat level
Davidson & Mellor (2001)	50 children (ages 16–30 years) of 50 male Vietnam War veterans. Controls: 33 age-matched civilian peers	30 veterans had PTSD and 20 did not	Australian/Vietnam	No significant differences in self-esteem and PTSD symptoms between groups; Significant differences in children's perception of their families' functional level
Davidson, Smith, & Kudler (1989)	108 outpatient veterans with PTSD. Controls: 60 (21 nonpsychiatric, 24 major depressives, 15 alcoholics)	Diagnosed with PTSD	American/41- World War II, 12-Korea, 55-Vietnam	Higher rate of psychiatric treatment among children of PTSD sufferers; PTSD found in 6 families of PTSD, but none in the control groups
Harkness (1993)	86 children (ages 4–16 years) from 40 families, their parents and teachers	Veterans with PTSD	American/Vietnam	Children with violent fathers were significantly more likely to have more behavior problems, poorer school performance and less social competence; No relationship between veterans' PTSD severity and children's adjustment
Jordan et al. (1992)	1,200 Vietnam Veterans and 376 spouses or coresident partners of the veterans	Veterans with and without PTSD	American/Vietnam	Veterans with PTSD showed markedly elevated levels of severe and diffuse problems in marital and family adjustment, parenting skills, and violent behavior
Motta, Joseph, Rose, Suozzia, & Leiderman (1997)	45 children of veterans and 47 children of nonveterans	Not stated	American/Vietnam and other wars	Children of veterans were slower in naming the colors on cards with war related words than were children of nonveterans
Parsons, Kehle, & Owen (1990)	143 children of combat veterans with PTSD and 48 children of combat veterans without PTSD	Veterans with and without PTSD	American/Vietnam	PTSD sufferers perceived children as having more dysfunctional social and emotional behavior, and difficulties in establishing and maintaining friendships; Types of behaviors were function of child's gender and age
Rosenheck (1986)	12 children of World War II veterans with PTSD	Veterans with PTSD	American/World War II	Four types of child's relationship with their fathers: secondary traumatized, rescuers, differentiated, and remote
Rosenheck & Fontana (1998a)	Vietnam Veterans and their partners living in households with children aged 6–16 years	Veterans with and without PTSD	American/Vietnam	Children of violent veterans showed more behavioral disturbance than children of other war veterans

(table continues)

Table 1 (continued)

Authors	Sample	Father's status	Nationality/war	Findings
Rosenheck & Fontana (1998b)	Sample 1: 155 veterans whose fathers were also involved in combat; 241 veterans whose fathers were not involved in combat	Not stated whether the veterans' fathers' were PTSD sufferers	American/Vietnam	Veterans whose fathers served in combat scored higher in PTSD symptoms, psychiatric symptoms, suicidality, guilt, and loss of religious faith than veterans whose fathers were not involved in combat
	Sample 2: 1,040 veterans: (1) No war stress: (a) No father in combat ($N = 438$); (b) Father in combat ($N = 156$) (2) No PTSD: (a) No father in combat ($N = 127$); (b) Father in combat ($N = 48$) (3) PTSD: (a) No father in combat ($N = 196$); (b) Father in combat ($N = 74$)	No data was available on PTSD among the fathers of the veterans in the sample	American/Vietnam	Veterans with PTSD whose fathers had served in combat had more severe PTSD symptoms, more survivor guilt, less social support, and were more likely to meet criteria for lifetime panic disorder and drug abuse than those with PTSD whose fathers did not participate in combat. The differences between these groups were no longer significant when homecoming experience was controlled
Ruscio, Weathers, King, & King (2002)	66 male Vietnam Veterans, all had one or more children	29% met <i>DSM-IV</i> for PTSD	American/Vietnam	Emotional numbing: the only aspect of PTSD uniquely associated with veterans' perceived relationships with their children
Souzzia & Motta (2004)	40 male Vietnam combat veterans and their 53 adult offspring	Fathers: veterans with PTSD	American/Vietnam	Combat exposure positively associated with modified Stroop task, the MMPI-2PK Scale and the anxiety trait scale, but not with PTSD distress and depression.
Westerink & Giarratano (1999)	22 children of veterans over the age of 15 years. Sample of 14 volunteers served as a control group	Fathers: veterans with PTSD	Australia/Vietnam	Children of veterans reported higher levels of conflict in their families; no significant differences on measures of psychological distress and self-esteem from control groups

1989; Jordan et al., 1992; Parsons, Kehle, & Owen, 1990). However, in some cases, the population consisted of fathers who participated in combat but were not diagnosed with PTSD (Dansby & Marinelli, 1999; Motta, Joseph, Rose, Suozzia, & Leiderman, 1997). As a result, the definition of "traumatic status" among the parents' generation is ambiguous and inconsistent (Rosenheck & Fontana, 1998a), and the answer is not simple as it might be seen in the beginning.

A few studies have attempted to provide a focused answer to this question. Two studies found that PTSD was far more significant than exposure to combat (Caselli & Motta, 1995; Souzzia & Motta, 2004). In contrast, Harkness (1993) found no significant correlation between the severity of the father's PTSD and the severity of the children's behavior problems. However, Harkness found that family violence (as a result of PTSD) predicted greater distress in children than did the PTSD itself. In other words, the consequences of PTSD are likely to have a greater effect on intergenerational transmission than the syndrome itself.

Davidson and Mellor (2001) conducted the only study that compared three groups of children: children whose fathers were Vietnam veterans with PTSD; children whose fathers were Vietnam veterans without PTSD; and a control group of children whose parents did not take part in combat. Significant differences in family functioning were found among the three groups. The

lowest levels of family functioning were reported by children of veterans with PTSD. This is the only study, to our knowledge, that indicates that the source of secondary traumatization is PTSD, and not participation in combat.

What Is Transmitted From Father to Child?

Here, we examine whether children of fathers with PTSD suffer from greater distress than a comparison group, and if there is a difference, whether the children's distress manifests itself in PTSD symptoms or has broader manifestations of distress. Examining the literature revealed that research has focused on three broad categories of variables: mental distress, family functioning, and self-esteem.

Distress

Review of the research that examined whether children had various symptoms such as PTSD, anxiety, depression, or behavior problems revealed inconsistent findings. Davidson et al. (1989) found that children of PTSD victims received more emotional treatment, had eating and communication disorders, and had more academic and behavior problems than the children in a control group whose fathers did not have PTSD. More depression and

anxiety (Ahmadzadeh & Malekian, 2004; Beckham et al., 1997; Dansby & Marinelli, 1999) and more behavior and emotional problems (Jacobsen, Sweeney, & Racusin, 1993; Jordan et al., 1992) were found among the offspring of fathers who had fought in Vietnam than among children whose fathers had not. By contrast, other studies found no differences in emotional distress (Davidson & Mellor, 2001; Souzzia & Motta, 2004; Westerink & Giarratano, 1999) or social development (Ahmadzadeh & Malekian, 2004) between children of veterans and children of the control group.

A related question was whether adults whose parents had been exposed to traumatic events show higher sensitivity to distress when they are directly exposed to a similar event. Rosenheck and Fontana (1998a) found that Vietnam veterans whose fathers had participated in World War II developed higher emotional distress than Vietnam veterans whose fathers had not been exposed to combat. The idea that parental PTSD is linked to the offspring's risk of developing stress reactions is intriguing and has not received enough investigation.

Family Functioning

Several studies have examined family functioning (Davidson & Mellor, 2001; Harkness, 1993; Westerink & Giarratano, 1999). Harkness (1993) found that veterans' parenting was characterized by controlling, overprotective and demanding relationships with their children. A later study (Ruscio, Weathers, King, & King, 2002) found that numbing symptoms of PTSD had the strongest negative impact on the parent-child relationship. The authors suggest that emotional numbing, detachment, and avoidance may directly impact on the veteran's parenting ability by diminishing the capability to interact with the child and develop a meaningful relationship.

Self-Esteem

Studies found no significant differences in self-esteem between children of war veterans with PTSD and controls (Davidson & Mellor, 2001; Westerink & Giarratano, 1999).

To sum, as can be seen in the previous studies, research has used the term "secondary traumatization" in two ways (Galovski & Lyons, 2004). In the first, narrower context, the children who have not been directly exposed to their father's trauma develop similar posttraumatic distress through closeness with the father who has experienced a traumatic event. The second, wider context covers transmission of a variety of expressions of distress (not only symptoms of PTSD) from someone who has directly experienced trauma to people in the immediate environment. In addition, the term "secondary traumatization," which has negative, pathological connotations, is used to test distress and thus diverts attention from the dimensions of developing and reinforcing coping resources, as well as from additional moderating variables that might be examined in an attempt to enhance understanding of mitigating intergenerational transmission.

What Are the Mechanisms of Transmission?

Whereas intergenerational transmission of different kinds of trauma is presently well established in both the empirical and

clinical literature (e.g., Danieli, 1998, 2007; Daud, Skoglund, & Rydelius, 2005; Rosenheck, 1986; Rubin & Rhodes, 2005; Scharf, 2007; Srour & Srour, 2005; Yehuda, Blair, Labinsky, & Bierer, 2007), the mechanisms by which trauma and/or its symptoms are transmitted are scarcely known and lack empirical base. As for families of veterans, the literature points to the fact that transmission does not occur in all veterans' families, but is more likely to take place among veteran fathers who developed PTSD. The primary distinction is between direct and indirect transmission. In direct transmission, symptoms of PTSD such as numbness, dissociation, and anxiety are transmitted to the child and directly impact him. In indirect transmission, PTSD symptoms impact or shape the child's distress, based on the evidence that children who grow up in a violent and/or stressful family atmosphere might experience negative implications (see Galovsky & Lyons, 2004).

Mechanisms of Direct Transmission

The main mechanisms of direct transmission that is described by psychodynamic approaches are projection and identification. Accordingly, fathers with PTSD have difficulty containing their emotions, and their attempts to mitigate the pain lead to massive use of projection mechanisms, where severe emotions such as persecution, aggression, shame and guilt are split and projected onto their children (e.g., Srour & Srour, 2005). As a result, the children may identify with the projected parts of their fathers' emotions, and perceive his experiences and feelings as their own. These unconscious processes can make it difficult for the child to form a separate self, and may result in the development of symptoms that replicate the disturbances of the father such as social isolation, guilt and detachment (Ancharoff, Munroe, & Fisher, 1998; Op den Velde, 1998). Rosenheck (1986) argued that the level of identification depends on the parent-child relationship and found that the children who were closest to the father developed the most similar and severe distress.

Recent research has introduced a new perspective, suggesting the likelihood that PTSD is transferred genetically and is not solely a learned and/or psychological response to severe life-endangering experiences. For example, an interaction was found between genetic (5-HTTLPR variant) and environmental factors in moderating risks of such conditions as posthurricane PTSD (Kilpatrick et al., 2007), child maltreatment-related depression (Kaufman et al., 2006), or stressful life events (Caspi et al., 2003). O'Brien (2004) reviewed studies supporting the genetic intergenerational transmission of PTSD argument in relation to children of Australian Vietnam veterans who suffered PTSD. He hypothesized that if PTSD is heritable, then PTSD and PTSD-type symptoms may be multigenerationally transmitted (see also Yehuda et al., 2007). However, review of the accumulative knowledge about genetic transmission is beyond the scope of the current article, which focuses on a psychosocial perspective.

Mechanisms of Indirect Transmission

Family approaches maintain that problems in functioning of the family unit among PTSD victims are the source of difficulties experienced by their offspring (Rosenheck & Fontana, 1998a). The functioning of the family unit, boundaries between family members, and the nature of the relationships shape the character and

intensity of the effect of trauma on the children. Thus, structure and dynamics of families of veterans with PTSD may impact the children in a few ways.

Functioning and involvement in the family unit. The main symptoms of PTSD reflect difficulties in regulating proximity and distance from the event and therefore may contribute to problems in attachment and intimacy (Cohen, Dekel, Solomon, & Lavie, 2003), thus reducing the father's involvement in routine family activities (e.g., Ruscio et al., 2002).

Normal development in childhood and adolescence requires regulating distance/closeness from the parents (Laible, Carlo, & Raffaelli, 2000) to enable formation of a separate identity (Grotevant & Cooper, 1986). Fathers who have difficulty regulating distance/closeness from their traumatic memories might also find it hard to properly regulate distance/closeness from their children. The father's physical presence and psychological absence or ambiguous loss (Boss, 1999), as well as the difficulty involved in understanding and explaining his behavior, might cause lack of appreciation and disappointment among the children. In these cases, the father is part of the family but only fulfills partial functions. The persistence of such ambiguity over a prolonged period can lead to emotional distress among those who are close to the father. Consequently, family members experience a confusion of boundaries, which is manifested by transferring the father's roles to the mother and/or the children.

Family atmosphere. One of the prevalent expressions of poorer family functioning in families of veterans with PTSD is the use of violence. Symptoms of hyperarousal, a low frustration threshold and low self-control can lead to the use of verbal and physical violence as a means of solving problems. Research has revealed that the use of violence is more common among war veterans who had PTSD than among those who did not (Jordan et al., 1992; Taft et al., 2005). Exposure to persistent interparental violence may have long-term negative psychological, social, and academic consequences (Langhinrichsen-Rohling, Monson, Meyer, Caster, & Sanders, 1998).

Patterns of communication. In a family of PTSD victims, communication patterns about the traumatic event and its consequences are central mechanisms in the transmission of distress from father to son. Patterns of communication can range from silence to overdisclosure (Ancharoff et al., 1998; Danieli, 1998). At one extreme is the conspiracy of silence, a concept originating in the literature about Holocaust survivors (Danieli, 1982, 1984), which is also mentioned in the context of families of veterans. Sensitive subjects are avoided to prevent the father's distress from intensifying. Communication might become indirect, confusing, and ambivalent. The children detect and receive clues about the past and about their parent's present behavior; for example, they notice that the parent is sad, cries, and sometimes even does not function, but they are incapable of understanding the meaning of what is taking place in their home (Op den Velde, 1998). In other cases, only partial details of the father's traumatic experience are disclosed to the child. Lack of knowledge or partial knowledge can lead to imaginary completion of the missing details, and the made-up story may be even more frightening than the real one. To the opposite extreme, albeit less frequently, overdisclosure can expose children to a large amount of information that is not suitable for their developmental age and cognitive abilities, and the information can be disclosed without appropriate parental guid-

ance. To the best of our knowledge, and similarly to Daud et al. (2005), there are currently no empirical studies that examined the relationship between the patterns of communication within the family and children's distress.

Which Children Are More Vulnerable to the Transmission of PTSD Distress in the Family?

This section examines whether the transmission occurs similarly among all the children in the family, or whether the children who are more vulnerable have specific characteristics. The issues of children's gender, age, and birth order will be examined.

Gender

The question arises as to whether boys and girls are at a similar risk for secondary traumatization. Only a small number of researchers have addressed this question. In line with the literature regarding differences between father-son and father-daughter relationships (Russell & Saebel, 1997), two studies found differences between distress reported by boys and girls (Harkness, 1993; Parsons et al., 1990), whereas another study found no gender effect (Dansby & Marinelli, 1999). The existing studies on intergenerational transmission have examined only fathers who were exposed to traumatic events, and there is no available knowledge about transmission from mother to children.

Children's Age

The ages of the children investigated in the studies reviewed here covered a broad range (e.g., 14–35 years in Beckham et al., 1997; 16–30 years in Davidson & Mellor, 2001). Most were conducted among children aged 14 or older (e.g., Beckham et al., 1997; Dansby & Marinelli, 1999). Only a few studies were conducted among younger children (Harkness, 1993). One study controlled for the age variable (Rosenheck & Fontana, 1998b), and another study found a correlation between the age of the children and their distress profile as reported by the fathers (Parsons et al., 1990). For example, young girls (aged 6–11) were rated by their fathers as having greater aggressiveness and impulsiveness, whereas older girls (aged 16–22) were characterized by greater depression and reclusion compared with girls in parallel age groups whose fathers did not have PTSD.

If the age variable is not taken into consideration, there is no way of distinguishing between the aspect of the adolescent's distress transmitted by the father and the aspect that is related to age-specific characteristics of adolescence.

Birth Order

Another question relates to the impact of birth order on the risk for developing distress; for example, whether older children, who may assume more responsibility than their younger siblings, are at higher risk for secondary traumatization.

Timing of Father's Injury

The next issue is the timing of the child's birth relative to the traumatic event experienced by the father. Most of the existing studies were conducted among children born after the father's

injury, and we did not find any research that examined children who were born before the father’s injury. Notably, children who have lived part of their lives with healthy and functioning parents may have different experiences than those who have lived their entire lives with malfunctioning parents (assuming that the parents have not experienced other forms of distress, such as unemployment or chronic disease). On the one hand, the traumatic event might negatively impact on all members of the family; on the other, it is possible that the period spent as a normative family, that is, before the injury, enhances resilience and mitigates the extent of intergenerational transmission.

Summary and Research Implications

The current literature review focused on situations that might increase the likelihood of intergenerational transmission of trauma

from fathers to sons in families of war veterans. Surprisingly, compared with new literature on children of Holocaust survivors (e.g., Scharf, 2007), the literature on children of war veterans is still scarce. A comparative review of the knowledge in these two areas is beyond the scope of this article, but differences and similarities in routes of transmission between these subdomains should be studied.

This section will summarize the findings in the field of children of war veterans and will point to domains that need further knowledge, as well as recommend future directions for research. These are summarized in Figure 1.

The literature review revealed that the first contributor to distress among children of trauma victims is the father’s trauma and distress. The more severe and complex the father’s exposure to combat through abuse of the enemy (Rosenheck & Fontana,

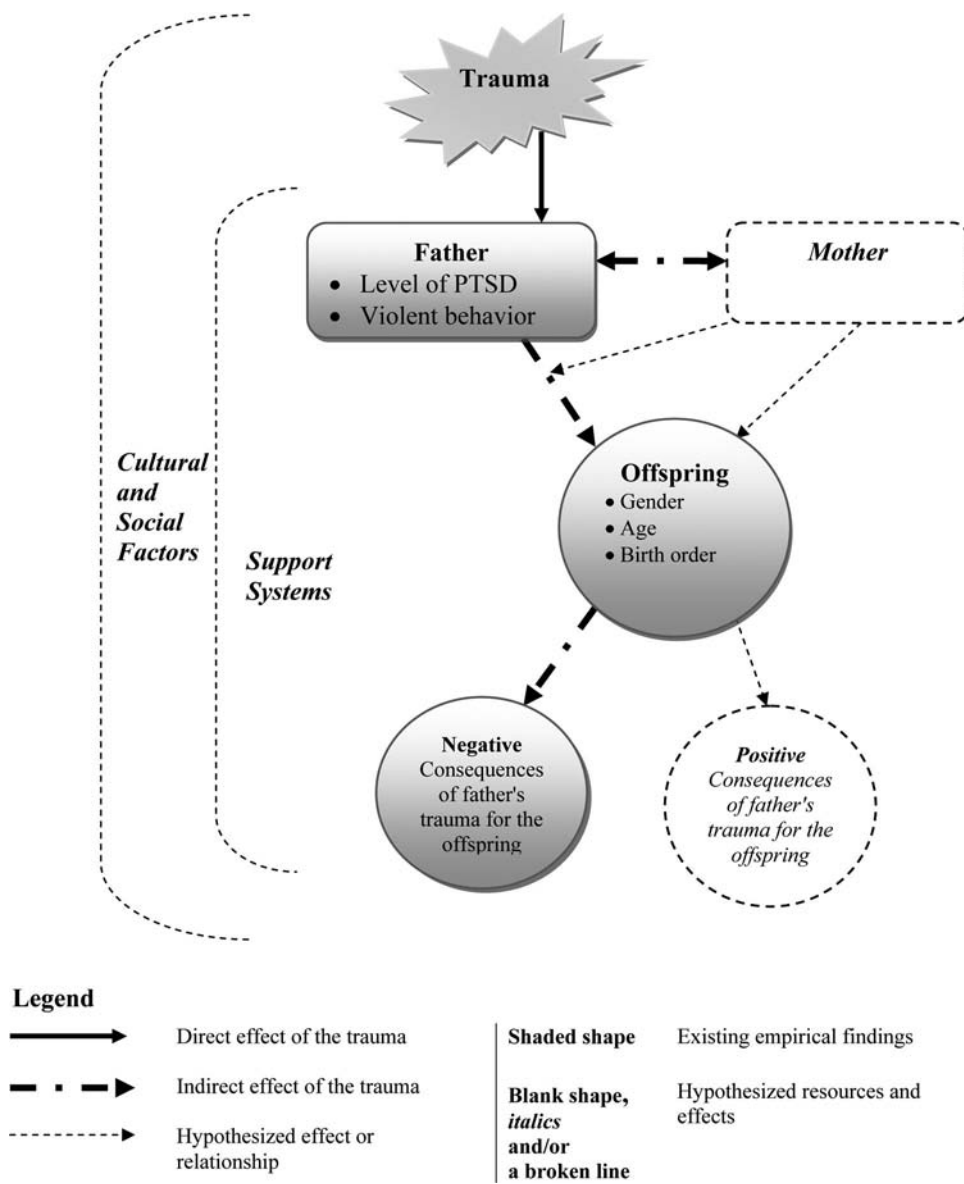


Figure 1. Is there intergenerational transmission of trauma? The case of combat veterans’ children: a model presenting empirical findings and hypothesized relationships.

1998b), the greater the extent of distress among the children. Furthermore, the greater the father's distress, as expressed in severe PTSD (Caselli & Motta, 1995; Daud et al., 2005; Suozzia & Motta, 2004) and the more frequent the use of violence (Harkness, 1993; Taft et al., 2005), the greater the extent of the children's distress. The contribution of the emotional detachment component in PTSD to children's distress was also found to be unique (Ruscio et al., 2002).

Despite the relatively extensive knowledge about the characteristics of fathers with PTSD, there are many aspects in the fathers' status that have not yet been examined, including the contribution of comorbid disturbances such as depression or drug addiction, which often go hand in hand with PTSD (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Moreover, most of the existing research has been conducted among clinical populations that had received mental health treatment. Thus, we lack information on secondary traumatization among children of war veterans who have not received treatment. To fill that gap, there is a need to examine representative samples of veterans, and expand the scope of research using qualitative and longitudinal designs.

In contrast to information about the father's characteristics, we lack sufficient knowledge about the characteristics of other systems that may contribute to or moderate intergenerational transmission of trauma. The children are the first group on which to focus. There is evidence that not all children in the same family are affected in the same manner and with the same severity. As to the child's characteristics, only a few studies have addressed the child's age, gender, or its place among siblings in the family. Nor do we know about the contribution of other child characteristics such as temperament, curiosity or independence, to the development or moderation of secondary traumatization.

The second group on which there is need to focus comprises the wives and mothers in these families. Indirect transmission from fathers to their children may occur also through the veteran's spouse and mother of the child. Mothers and wives who are generally central figures in the family, may take on even more prominent roles in families of veterans with PTSD due to their spouses' illness and distress (Dekel, Goldblatt, Keidar, Solomon, & Polliack, 2005; Figley, 1986). There is much literature describing the personal and marital distress these wives experience as a result of such an ongoing stressful situation (e.g., Dekel et al., 2005; Remer & Ferguson, 1998; Solomon et al., 1992). The increased burden and responsibility on the wife may reach a point where problems develop in her parental functioning. Nevertheless, there has been little examination of female partners as mothers in such family systems. They might experience stress, but may also use their role of wife/mother to buffer the impact of PTSD symptomatology on their children.

The family's distress is inextricably linked with processes taking place in the social and cultural environment (Op den Velde, 1998; Rousseau & Drapeau, 1998). Distress among fathers and sons is affected by several factors, such as prevailing attitudes about the war in which the father participated; attitudes and perceptions regarding emotional distress and therapy; processes for formal recognition of the victim and the availability of therapy (Danieli, 1998), and continuous war and political violence (Srouf & Srouf, 2005). Thus, intergenerational transmission takes place not only as a result of family mechanisms but is also affected by mechanisms and processes that operate in society at large.

Finally, studies examined thus far did not take into account changes in the paternal role that have occurred in recent decades. For example, the increased involvement of fathers in raising their children may intensify transmission of distress from father to son (Marsiglio, Amato, Day, & Lamb, 2000; Scaturro & Hayman, 1992).

Furthermore, to enhance the understanding of secondary traumatization, there is a need to identify mitigating factors that might reduce the intensity of distress caused by the father's exposure to PTSD. Research should move from a description of the phenomenon to better understanding of the factors that intensify or reduce it. These factors can be identified both inside and outside the family. Such factors can be the children's relationships with the father, birth order; time elapsed since the injury, and extrafamilial or wider support systems. Similarly, it is important to examine children's personal resources, such as sense of humor and intelligence, which can help them cope with distress.

In addition, an abundance of literature has been published on posttraumatic growth. Researchers have found that people exposed to traumatic events report positive changes in their self-perceptions, in their perceptions of others, and in the objectives and meaning of their lives (Calhoun & Tedeschi, 2006). Thus, it is possible that there are positive aspects to life in families where the fathers were exposed to traumatic events. For example, the literature on children who have been exposed to family violence reports that they become more empathic or take on various functions within the family, which they perceive as a source of responsibility, power and development (Goldblatt & Eisikovits, 2005). In a similar vein, PTSD victims' fatherhood is not necessarily only negative. It is possible that the fathers' low functioning outside the home and their extended presence in the home makes them more available and accessible to their children. For example, in a study conducted among wives of PTSD victims, one of the women noted that her spouse was always there for the children (Dekel et al., 2005). Thus, despite their limitations as parents, these fathers can succeed in maintaining good relationships with their offspring. Nevertheless, to date there is paucity of knowledge about protective factors that would modulate the risk factors resulting from children's exposure to fathers' PTSD symptoms.

The studies reviewed in this article have examined war veterans who had PTSD, most of whom were men. Therefore, these studies relate to fathers and children but do not address transmission from mothers to children. The lack of knowledge about mothers is particularly noteworthy today, when both men and women serve in reserve units and female combatants are serving in the U.S. military in Iraq and the Persian Gulf (Cozza, Chun, & Polo, 2005; Galovsky & Lyons, 2004).

To conclude, the material surveyed indicates that to achieve a comprehensive understanding of the consequences of intergenerational transmission of trauma, it is necessary to adopt a broader perspective, including an examination of factors that mitigate distress, as well as an examination of the positive aspects of the transmission and factors that reduce the possibility of transmitting distress. It is important to study not only the father's psychological state, but also to explore the contribution of the child, mother and social system at large to intergenerational transmission of trauma. Unfortunately, wars and armed conflict continuously affect people in many locations. It is therefore vital to continue conducting

studies that will enable further understanding of the comprehensive implications of participation in war.

References

- Ahmadzadeh, G. H., & Malekian, A. (2004). Aggression, anxiety, and social development in adolescent children of war veterans with PTSD versus those of non-veterans. *Journal of Research in Medical Sciences, 9*, 33–36.
- Ancharoff, M. R., Munroe, J. F., & Fisher, L. M. (1998). The legacy of combat trauma: Clinical implications of intergenerational transmission. In Y. Danieli (Ed.), *International handbook of multigenerational legacies of trauma* (pp. 257–276). New York: Plenum Press.
- Beckham, J. C., Braxton, L. E., Kudler, H. S., Feldman, M. E., Lytle, B. L., & Palmer, S. (1997). Minnesota Multiphasic Personality Inventory profiles of Vietnam combat veterans with posttraumatic stress disorder and their children. *Journal of Clinical Psychology, 53*, 847–852.
- Boss, P. (1999). *Ambiguous loss: Learning to live with unresolved grief*. Cambridge, MA: Harvard University Press.
- Calhoun, L. G., & Tedeschi, R. G. (Eds.) (2006). *Handbook of posttraumatic growth: Research and practice*. Mahwah, NJ: Erlbaum.
- Caselli, L. T., & Motta, R. W. (1995). The effect of PTSD and combat level on Vietnam veterans' perceptions of child behavior and marital adjustment. *Journal of Clinical Psychology, 51*, 4–12.
- Caspi, A., Sugden, K., Moffitt, T. E., Taylor, A., Craig, I. W., Harrington, H., et al. (2003). Influence of life stress on depression: Moderation by a polymorphism in the 5-HTT gene. *Science, 301*, 386–389.
- Cohen, E., Dekel, R., Solomon, Z., & Lavie, T. (2003). Posttraumatic stress symptoms, fear of intimacy among treated and non-treated survivors who were children during the Holocaust. *Social Psychiatry and Psychiatric Epidemiology, 38*, 611–617.
- Cozza, S. J., Chun, R. S., & Polo, J. A. (2005). Military families and children during operation Iraqi freedom. *Psychiatric Quarterly, 76*, 371–378.
- Danieli, Y. (1982). Therapists' difficulties in treating survivors of the Nazi Holocaust and their children. *Dissertation Abstracts International, 42*(12-B, Pt 1), 4927 (UMI No. 949–904).
- Danieli, Y. (1984). Psychotherapists' participation in the conspiracy of silence about the Holocaust. *Psychoanalytic Psychology, 1*(1), 23–42.
- Danieli, Y. (1998). Introduction: History and conceptual foundations. In Y. Danieli (Ed.), *International handbook of multigenerational legacies of trauma* (pp. 1–17). New York: Plenum Press.
- Danieli, Y. (2007). Assessing trauma across cultures from a multigenerational perspective. In J. P. Wilson & C. So-kum Tang (Eds.), *Cross-cultural assessment of psychological trauma and PTSD* (pp. 65–89). New York: Springer-Verlag.
- Dansby, V. S., & Marinelli, R. P. (1999). Adolescent children of Vietnam combat veteran fathers: A population at risk. *Journal of Adolescence, 22*, 329–340.
- Daud, A., Skoglund, E., & Rydelius, P. A. (2005). Children in families of torture victims: Transgenerational transmission of parents' traumatic experiences to their children. *International Journal of Social Welfare, 14*, 23–32.
- Davidson, A. C., & Mellor, D. J. (2001). The adjustment of children of Australian Vietnam veterans: Is there evidence for the transgenerational transmission of war-related trauma? *Australian and New Zealand Journal of Psychiatry, 35*, 345–351.
- Davidson, J., Smith, R., & Kudler, H. (1989). Familial psychiatric illness in chronic posttraumatic stress disorder. *Comprehensive Psychiatry, 30*, 339–345.
- Dekel, R., Goldblatt, H., Keidar, M., Solomon, Z., & Polliack, M. (2005). Being a spouse of a PTSD veteran. *Family Relations, 54*, 24–36.
- Figley, C. R. (1986). Traumatic stress: The role of the family and social support systems. In C. R. Figley (Ed.), *Trauma and its wake: Vol. 2. Traumatic stress, theory, research and intervention* (pp. 39–54). New York: Brunner/Mazel.
- Figley, C. R. (1995). *Compassion fatigue: Coping with secondary traumatic stress disorder in those who treat the traumatized*. New York: Brunner/Mazel.
- Galovski, T., & Lyons, J. (2004). Psychological sequelae of combat violence: A review of the impact of PTSD on the veteran's family and possible interventions. *Aggression and Violent Behavior, 9*, 477–501.
- Goldblatt, H., & Eisikovits, Z. (2005). Role taking of youths in a family context: Adolescents exposed to interparental violence. *American Journal of Orthopsychiatry, 75*, 644–657.
- Grotevant, H. D., & Cooper, C. R. (1986). Individuation in family relationships. *Human Development, 29*, 82–100.
- Harkness, L. L. (1993). Transgenerational transmission of war-related trauma. In J. P. Wilson & B. Raphael (Eds.), *International handbook of traumatic stress syndromes* (pp. 635–643). New York: Plenum Press.
- Hartsough, D. M., & Myers, D. G. (1985). *Disaster work and mental health: Prevention and control of stress among workers*. Rockville, MD: National Institute of Mental Health.
- Herman, J. (1992). *Trauma and recovery*. New York: Basic Books.
- Jacobsen, L. K., Sweeney, C. G., & Racusin, G. R. (1993). Group psychotherapy for children of fathers with PTSD: Evidence of psychopathology emerging in the group process. *Journal of Child and Adolescent Group Therapy, 3*, 103–120.
- Jordan, B. K., Marmar, C. R., Fairbank, J. A., Schlenger, W. E., Kulka, R. A., Hough, R. L., et al. (1992). Problems in families of male Vietnam veterans with posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 60*, 916–926.
- Kaufman, J., Yang, B. Z., Douglas-Palumberi, H., Grasso, D., Lipschitz, D., Houshyaret, S., et al. (2006). Brain derived neurotrophic factors-5-HTTLPR gene interactions and environmental modifiers of depression in children. *Biological Psychiatry, 59*, 673–680.
- Kellerman, N. (2007). Ha'avara shel traumat hasho'ah [Transmission of the Holocaust trauma]. In Z. Solomon & J. Chaitin (Eds.), *Yaldut betzel hasho'ah: Yeladim nitzolim ve'dor sheni* [Childhood in the shadow of the Holocaust—survived children and second generation] (pp. 286–303). Tel-Aviv, Israel: Hakibbutz Hameuchad. (in Hebrew).
- Kessler, R. C., Sonnega, A., Bromet, E. J., Hughes, M., & Nelson, C. B. (1995). Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry, 52*, 1048–1060.
- Kilpatrick, D. G., Koenen, K. C., Ruggiero, K. J., Acerno, R., Galea, S., Resnick, H. S., et al. (2007). The serotonin transporter genotype and social support and moderation of posttraumatic stress disorder and depression in hurricane-exposed adults. *American Journal of Psychiatry, 164*, 1693–1699.
- Laible, D. J., Carlo, G., & Raffaelli, M. (2000). The differential relations of parent and peer attachment to adolescent adjustment. *Journal of Youth and Adolescence, 29*, 45–59.
- Langhinrichsen-Rohling, J., Monson, C. M., Meyer, K. A., Caster, J., & Sanders, A. (1998). The associations among family-of-origin violence and young adults' current depressed, hopeless, suicidal, and life-threatening behavior. *Journal of Family Violence, 13*, 243–261.
- Marsiglio, W., Amato, P., Day, R. D., & Lamb, M. E. (2000). Scholarship on fatherhood in the 1990s and beyond. *Journal of Marriage and Family, 62*, 1173–1191.
- McCann, I. L., & Pearlman, L. A. (1990). Vicarious traumatization: A framework for understanding the psychological effects of working with victims. *Journal of Traumatic Stress, 3*, 131–149.
- Motta, R. W., Joseph, J. M., Rose, R. D., Suozzia, J. M., & Leiderman, L. J. (1997). Transmission of war experiences with a modified Stroop procedure. *Journal of Clinical Psychology, 53*, 895–903.
- Op den Velde, W. (1998). Children of Dutch war sailors and civilian resistance veterans. In Y. Danieli (Ed.), *International handbook of*

- multigenerational legacies of trauma* (pp. 147–162). New York: Plenum Press.
- O'Brien, K. (2004, October). *The intergenerational transference of Post-Traumatic Stress Disorder amongst children and grandchildren of Vietnam veterans in Australia: An argument for a genetic origin. Review of current literature*. Paper presented at the Social Change in the 21st Century Conference, Centre for Social Change Research, Queensland University of Technology, Queensland, Australia.
- Parsons, J., Kehle, T. J., & Owen, S. V. (1990). Incidence of behavior problems among children of Vietnam veterans. *School Psychology International, 11*, 253–259.
- Remer, R., & Elliott, J. E. (1988). Management of secondary victims of sexual assault. *International Journal of Family Psychiatry, 9*, 389–401.
- Remer, R., & Ferguson, R. A. (1998). Treating traumatized partners: Producing secondary survivors of PTSD. In C. R. Figley (Ed.), *Burnout in families: The systemic costs of caring*, (pp. 139–170). New York: CRC Press.
- Rosenheck, R. (1986). Impact of posttraumatic stress disorder of World War II on the next generation. *Journal of Nervous and Mental Disease, 174*, 319–327.
- Rosenheck, R., & Fontana, A. (1998a). Warrior fathers and warrior sons: Intergenerational aspects of trauma. In Y. Danieli (Ed.), *International handbook of multigenerational legacies of trauma* (pp. 225–242). New York: Plenum Press.
- Rosenheck, R., & Fontana, A. (1998b). Transgenerational effects of abusive violence on the children of Vietnam combat veterans. *Journal of Traumatic Stress, 11*, 731–741.
- Rosenheck, R., & Nathan, P. (1985). Secondary traumatization in the children of Vietnam veterans with post-traumatic stress disorder. *Hospital and Community Psychiatry, 36*, 538–539.
- Rousseau, C., & Drapeau, A. (1998). The impact of culture on the transmission of trauma: Refugees' stories and silence embodied in their children's lives. In Y. Danieli (Ed.), *International handbook of multigenerational legacies of trauma* (pp. 465–486). New York: Plenum Press.
- Rubin, A., & Rhodes, L. (2005). Telling "ten percent of the story": Narrative and the intergenerational transmission of trauma among Cambodian refugees. In A. M. Georgiopoulos & J. F. Rosenbaum (Eds.), *Cross-cultural psychiatry* (pp. 157–178). Philadelphia: Lippincott Williams & Wilkins.
- Ruscio, A. M., Weathers, F. W., King, L. A., & King, D. W. (2002). Male war-zone veterans' perceived relationships with their children: The importance of emotional numbing. *Journal of Traumatic Stress, 15*, 351–357.
- Russell, A., & Saebel, J. (1997). Mother-son, mother-daughter, father-son, and father-daughter: Are they distinct relationships? *Developmental Review, 17*, 111–147.
- Scaturro, D. J., & Hayman, P. M. (1992). The impact of combat trauma across the family life cycle: Clinical considerations. *Journal of Traumatic Stress, 5*, 273–288.
- Scharf, M. (2007). Long-term effects of trauma: Psychosocial functioning of the second and third generation of Holocaust survivors. *Development and Psychopathology, 19*, 603–622.
- Solomon, Z. (2007). Hashpa'ot bein-doriot shel hasho'ah: Nekudat hamabat ha'Israelit Bamechkar [Transgenerational effects of the Holocaust: The Israeli research perspective]. In Z. Solomon & J. Chaitin (Eds.), *Yaldut betzel hasho'ah: Yeladim nitzolim ve'dor sheni* [Childhood in the shadow of the Holocaust—survived children and second generation] (pp. 304–336). Tel-Aviv, Israel: Hakibbutz Hameuchad. (in Hebrew).
- Solomon, Z., Waysman, M., Belkin, R., Levy, G., Mikulincer, M., & Enoch, D. (1992). Marital relations and combat stress reaction: The wives' perspective. *Journal of Marriage and the Family, 54*, 316–326.
- Souzzia, J. M., & Motta, R. (2004). The relationship between combat exposure and the transfer of trauma-like symptoms to offspring of veterans. *Traumatology, 10*, 17–37.
- Strour, R. W., & Strour, A. (2005). Communal and familial war-related stress factors: The case of the Palestinian child. *Journal of Loss and Trauma, 11*, 289–309.
- Taft, C. T., Pless, A. P., Stalans, L. J., Koenen, K. C., King, L. A., & King, D. W. (2005). Risk factors for partner violence among a national sample of combat veterans. *Journal of Consulting and Clinical Psychology, 73*, 151–159.
- Van IJzendoorn, M. H., Bakermans-Kranenburg, M. J., & Sagi-Schwartz, A. (2003). Are children of Holocaust survivors less well-adapted? No meta-analytic evidence for secondary traumatization. *Journal of Traumatic Stress, 16*, 459–469.
- Westerink, J., & Giarratano, L. (1999). The impact of posttraumatic stress disorder on partners and children of Australian Vietnam veterans. *Australian and New Zealand Journal of Psychiatry, 33*, 841–847.
- Yehuda, R., Blair, W., Labinsky, E., & Bierer, L. M. (2007). Effects of parental PTSD on the Cortisol response to Dexamethasone administration in their adult offspring. *American Journal of Psychiatry, 164*, 163–166.

Received May 20, 2008

Revision received May 20, 2008

Accepted September 7, 2008 ■