

# Trauma, Violence, & Abuse

<http://tva.sagepub.com>

---

## **Pathways Linking Intimate Partner Violence and Posttraumatic Disorder**

Mary Ann Dutton

*Trauma Violence Abuse* 2009; 10; 211 originally published online May 27, 2009;

DOI: 10.1177/1524838009334451

The online version of this article can be found at:  
<http://tva.sagepub.com/cgi/content/abstract/10/3/211>

---

Published by:



<http://www.sagepublications.com>

**Additional services and information for *Trauma, Violence, & Abuse* can be found at:**

**Email Alerts:** <http://tva.sagepub.com/cgi/alerts>

**Subscriptions:** <http://tva.sagepub.com/subscriptions>

**Reprints:** <http://www.sagepub.com/journalsReprints.nav>

**Permissions:** <http://www.sagepub.com/journalsPermissions.nav>

**Citations** <http://tva.sagepub.com/cgi/content/refs/10/3/211>

# PATHWAYS LINKING INTIMATE PARTNER VIOLENCE AND POSTTRAUMATIC DISORDER

MARY ANN DUTTON

Georgetown University, Washington, D.C.

---

*Intimate partner violence (IPV), which includes physical violence, sexual violence, and psychological or emotional abuse, is a significant public health threat. The Centers for Disease Control and Prevention (CDC) estimate that each year 1.5 million women are physically assaulted and/or raped by an intimate partner. However, because many victims of IPV are repeatedly abused, a more accurate accounting of the extent of violence suggests that approximately 4.8 million intimate partner physical assaults and rapes are perpetrated annually against women in the United States. The article discusses a survey involving 3,429 English-speaking women enrolled in a health maintenance organization (HMO) for 3 or more years. The findings are 46% of participants who were screened reported a lifetime history of any IPV and 14.7% reported a history within the past 5 years, including physical, sexual, and nonphysical types.*

---

**Key words:** *Intimate partner violence; Posttraumatic Stress Disorder*

## POSTTRAUMATIC STRESS AS AN OUTCOME OF INTIMATE PARTNER VIOLENCE

It is now well recognized that intimate violence victimization can lead to adverse mental health effects such as PTSD (posttraumatic stress disorder), depression, and anxiety. Although not all women who experience intimate partner violence (IPV) are affected, the level of resultant mental health problems is staggering, both in terms of its prevalence and its severity. This article addresses the multiple pathways linking IPV and PTSD as a key mental health outcome. PTSD was chosen at the focus because it is a hallmark of trauma exposure for which there is considerable extant research. PTSD, as a diagnostic category of the *Diagnostic and Statistical Manual of Mental Health Disorders*

(text revision; American Psychiatric Association, 2000), involves six criteria: (1) exposure to a traumatic event that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or other that involved intense fear, helplessness, or horror; (2) at least one symptom of persistent reexperiencing (e.g., recurrent and distressing recollections of the events, recurrent distressing dreams); (3) at least three symptoms of persistent avoidance and numbing symptoms (e.g., efforts to avoid thoughts, feelings, or conversations associated with the trauma; feelings of detachment; restricted range of affect); (4) at least two persistent symptoms of increased arousal (e.g., difficulty falling or staying asleep, difficulty concentrating, hypervigilance); (5) Duration of symptoms is more than 1 month; (6) The

TRAUMA, VIOLENCE, & ABUSE, Vol. 10, No. 3, July 2009 211-224

DOI: 10.1177/1524838009334451

© 2009 The Author(s)

### KEY POINTS OF THE RESEARCH REVIEW

#### PTSD Comorbidity

- Depression
- Suicide
- Anxiety
- Reduced social functioning

#### Context of PTSD

- Characteristics of intimate partner violence
- Sociodemographic variables
- Coping and social support
- Physical health
- Threat appraisal of ongoing risk
- Revictimization

#### Gaps in Research Linking IPV and PTSD

- Complex and longitudinal models
- PTSD clusters
- PTSD treatment research

disturbance causes clinically significant distress or impairment. PTSD is relevant for IPV victims even though for many women revictimization may recur. Even so, the trauma theorists have not yet adequately addressed the potential implications for ongoing exposure to traumatic experiences that IPV typically illustrates. Nevertheless, it is still fruitful to consider the various links between IPV and PTSD, as many women live with undiagnosed PTSD and could benefit from our greater understanding of these complex relationships were they to be translated into effective interventions.

In a meta-analysis of the mental health impact of IPV, the prevalence of PTSD ranged from 31% to 84.4%, with a weighted mean prevalence estimate of 64% (Golding, 1999). These rates are significantly higher than the estimated lifetime prevalence of 10.4% in the general population of women (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995) and 25.8% among women with a history of crime victimization (Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993). Other recent reviews also examined the link between PTSD and IPV (Briere & Jordan, 2004; Jones, Hughes, & Unterstaller, 2001; Woods, 2000).

#### **PTSD Comorbidity**

PTSD rarely occurs alone (Kessler et al., 1995). One of the most common comorbid diagnoses among women with PTSD is major depression

(Breslau, Davis, Peterson, & Schultz, 1997). Lifetime rates of depression observed in the general population range from 10.2% to 21.3% (Weissman, Bruce, Leaf, Florio, & Holzer, 1991). In general, exposure to trauma has been associated with a 10.4% prevalence rate of depression among adult women (Kessler, 2003).

In a nationally representative sample using the Violence Against Women survey database, Coker et al. (2002) found that all types of IPV were associated with depression and that the adjusted relative risk for depression among women exposed to physical violence from an intimate partner was 2.2. Two additional studies of battered women also found a high prevalence of depression. A meta-analytic review (Golding, 1999) reported a weighted mean prevalence estimate of 48% of abused women reporting depression. A more recent study of 413 predominately African American women from battered women's programs (Mechanic, Weaver, & Resick, 2008) found that most women were depressed, reporting moderate (45%) or severe (31%) depression. Among women randomly sampled in a health maintenance organization (HMO), those who had experienced partner violence within the past 5 years, compared to no violence, were 2.3 times more likely to report any and 2.6 times more likely to report severe depressive symptoms (Bonomi et al., 2006).

IPV is also a risk factor for suicide among women (Abbott, Johnson, Koziol-McLain, & Lowenstein, 1995; Bergman & Brismar, 1991; Kaslow et al., 1998). Among those women exposed to IPV, risk factors for previous attempted suicide were numerous and included severe negative life events, a history of child maltreatment, high levels of psychological distress and depression, hopelessness about the future, and alcohol and drug problems (Kaslow et al., 2002).

In spite of this body of knowledge, investigators are only beginning to examine the multiple pathways linking IPV and PTSD, and many questions remain. How does IPV lead to PTSD? Are IPV-related adverse outcomes direct or indirect through PTSD? This article examines these relationships and proposes a framework to guide future research examining PTSD as a key variable measuring impact linking IPV and other related constructs. In so doing, the

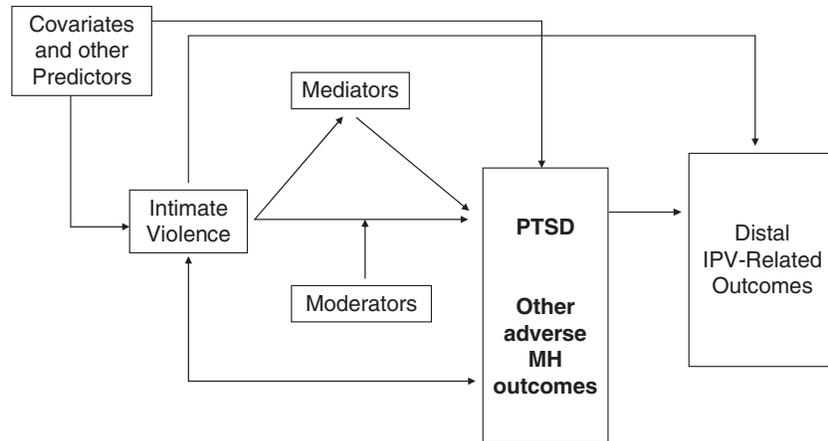


FIGURE 1: Pathways to and From PTSD

intent is ultimately to offer a model supporting the design of appropriate services and interventions for IPV victims. Due to its prevalence and its link to other important IPV-related variables, PTSD is a crucial target of intervention among those battered women who are experiencing its effects. Furthermore, PTSD interventions in other populations have been shown to ameliorate comorbid symptomatology as well as PTSD. For example, research has demonstrated that PTSD interventions lead to decreased depression and anxiety as well as improved social functioning (Foa et al., 1999; Jaycox, Zoellner, & Foa, 2002; Krupnick, 2002; Resick et al., 2002). Thus, interventions designed to reduce PTSD may have wide-ranging positive effects for preventing or reducing other adverse outcomes of IPV. Next, a general structural model for incorporating other variables on the pathway to and from PTSD is presented. Then selected substantive variables are discussed.

### ***PTSD in Context***

A hypothesized general structural model is offered as a framework for conceptualizing the nature of relationships that need to be examined in future research on IPV and PTSD. The model presented in Figure 1 includes variable categories that involve the following relationships, which has some support in the existing empirical literature: (a) covariates with a direct relationship to both IPV and PTSD (e.g., prior

trauma exposure), (b) effects of moderating variables (e.g., ethnic and other demographic variables) on the relationship between IPV and PTSD, (c) effects of mediating variables (e.g., coping) on the IPV to PTSD pathways, and (d) distal outcomes (e.g., chronic health conditions) for both direct effects of IPV and indirect effects mediated through PTSD.

Next is a discussion of select substantive variables that are hypothesized to exhibit one or more types of relationships to IPV and PTSD in this general structural model. The nested ecological model of IPV applied to battered women (Dutton, 1996; Heise, 1998) is used to identify key variables important to examine in relation to PTSD. This model provides direction for understanding interlocking substantive domains within which to select factors for understanding the multiple pathways linking PTSD and other related outcomes. The ecological model examines the phenomenon of IPV within layers of psychological, social, political, economic, and cultural contexts, and not psychological context alone. This ecological model suggests that the relationship between IPV and its mental health impact is influenced by multiple factors. Narrow, disorder-specific interventions are undoubtedly insufficient to meet the complex array of needs that battered women experience, especially when considering interventions that focus on targets along the pathway to the development or maintenance of PTSD. Indeed, the ecological model has been previously adapted to inform intervention with

pregnant, battered women (Parker, McFarlane, Soeken, Silva, & Reel, 1999). Below is a discussion of key selected variables with important relationships to PTSD among women exposed to IPV: (a) characteristics of IPV, (b) sociodemographic variables, (c) coping and social support, (d) physical health, (e) threat appraisal of ongoing risk, and (f) revictimization. The number of variables examined here is limited due to space restrictions, but many possibilities exist.

*Characteristics of IPV.* It is necessary to define IPV clearly not only to examine the role of any IPV on PTSD, but also of different types of IPV specifically. *Physical, sexual, and psychological abuse* and *stalking* have become recognized as standard definitions in the phenomenology of IPV (Saltzman, Fanslow, McMahon, & Shelley, 1999/2002). But historically, advocates recognized the central role of coercion and control in violent relationships. Indeed, IPV has been defined as "pattern of coercive control" (Pence & Paymar, 1993, 1996), a conceptualization that is still relevant, although the role of coercive control in every form of violence is a matter of some controversy and research inquiry. However, until recently, the absence of a standardized measure of coercion in intimate partner relationships has led to a dearth of research related to coercion and IPV. The recent development of a measure of partner coercive control (Dutton, Goodman, & Schmidt, 2005) provides the field with a measure of coercion (and the related constructs of demands, surveillance, and behavioral response to coercive tactics) that now makes possible the examination of coercion and its role as a component of IPV.

As expected, increased severity and intensity of physical IPV is associated with greater PTSD, and all types of IPV have been found to be associated with PTSD. For some time, it has been shown that psychological abuse has as strong or stronger relationship to PTSD and depression than does physical abuse (Arias & Pape, 1999; Dutton, Goodman, & Bennett, 1999; O'Leary & Jouriles, 1994; Pico-Alfonso, 2005). More recently, Mechanic et al. (2008) again demonstrated that psychological abuse and stalking contributed to the prediction of PTSD over and above physical abuse and injury. Notably, when psychological abuse and stalking

were entered first in the multivariate prediction, physical abuse and injury were no longer significant predictors of PTSD in this study. Preliminary results using the recently developed measure of coercive control indicate that higher levels of coercion are associated with greater PTSD, but not depression, even after controlling for physical violence, injury, partner sexual abuse, and psychological abuse for both female and male victims (Dutton & Goodman, 2005).

Differences in PTSD have been found among women with different patterns of IPV identified through cluster analysis (Pattern 1 = moderate physical violence, sexual abuse, psychological abuse, stalking; Pattern 2 = severe physical violence, psychological abuse, and stalking, but low sexual abuse; Pattern 3 = severe physical violence, psychological abuse, stalking, and sexual abuse; Dutton, Kaltman, Goodman, Weinfurt, & Vankos, 2005). Probable PTSD diagnosis was met for 88% in Pattern 3, 76% in Pattern 2, and 56% in Pattern 1. Compared to Pattern 1 (moderate levels), the odds of meeting criteria for probable PTSD were 2.5 higher for women in Pattern 2 and 5.6 times higher for those in Pattern 3. Sexual IPV, in addition to physical violence in partner relationships, has been associated with worse mental health outcomes in other studies as well. This study supported that more types and the inclusion of sexual violence were both important for predicting PTSD. In a study of help-seeking battered women, Bennice and her colleagues (Bennice, Resick, Mechanic, & Astin, 2003) found that sexual violence severity predicted a significant variability in PTSD beyond that explained by physical violence severity. Taken together, these findings indicate that greater IPV severity, the inclusion of sexual abuse in the pattern of violence, psychological abuse, and coercion increase the risk for PTSD.

*Sociodemographic factors.* Following exposure to traumatic events, PTSD is more likely among some groups. Predictors of PTSD in general populations have been shown to include female gender, degree of exposure, childhood trauma, and family history and preexisting psychiatric disorders (Alim, Charney, & Mellman, 2006; Breslau, 2002; Kessler et al., 1995). Research

suggests that women from low socioeconomic strata are at a higher risk of experiencing both IPV and the negative outcomes associated with IPV (Bachman & Saltzman, 1995; Coker, Weston, Creson, Justice, & Blakeney, 2005; Sorenson, Upchurch, & Shen, 1996). Low socioeconomic status (SES), minority women are at further increased risk because they are not adequately served by traditional mental health treatment settings (Neighbors et al., 1992; Takeuchi & Uehara, 1996; U.S. Department of Health and Human Services [USDHHS], 2001).

Among women, there is little evidence for difference between African American and White women in PTSD, once controlling for SES. However, other factors may increase the risk for African American and other minority women (Alim et al., 2006), such as increased risk for exposure to violence, prejudice and stigmatization, and poverty. Although some studies find an increased risk (Greenfeld et al., 1998; Tjaden & Thoennes, 2000), others have found no differences (Griffing et al., 2006), especially when the confound between ethnicity and socioeconomic status has been accounted for (Vogel & Marshall, 2001). Yet other studies have found White women to have greater PTSD compared to ethnic minorities (Jones, Bogat, Davidson Li, von Eye, & Levendosky, 2005), although these authors found no differences in family support measured as number of different family members providing emotional or practical support—a factor that has been found to explain differences in PTSD (Charuvastra & Cloitre, 2007; Glass, Perrin, Campbell, & Soeken, 2007)

Other demographic characteristics have also been associated with increased risk for PTSD. For example, among women recruited through an emergency department and who were identified as having IPV-related problems (Lipsky, Field, Caetano, & Larkin, 2005), those who were married (vs. not being married regardless of whether living together) were more than twice as likely to report probable PTSD (using the composite internal diagnostic interview [CIDI]), after controlling for number of different acts of violence (e.g., physical violence items on the Conflict Tactics Scale-2 [CTS-2]), partner's alcohol use, and report of any sexual IPV. However, in contrast, another study (Coker et al., 2005) found that being currently married was a

protective factor for PTSD. Research that examines potential differences in PTSD among groups is needed to tailor interventions uniquely suited to different groups.

*Prior trauma history.* Evidence indicates that women with a history of childhood physical and sexual abuse are at increased risk for IPV (West, Williams, & Siegel, 2000). Furthermore, among women exposed to IPV, childhood abuse has been shown to increase the risk for PTSD. Koopman and colleagues (2005) found that child abuse and IPV severity both contributed to the prediction of PTSD symptoms. Griffing et al. (2006) found that childhood sexual, but not physical, abuse predicted PTSD hyperarousal symptoms and that witnessing maternal domestic violence uniquely predicted intrusion symptoms. These findings point to an enhanced sensitivity to adverse mental health following subsequent traumatic exposure such as IPV.

A study from the California Women's Health Survey, a probability sample, random digital study of California women found that both childhood abuse and adult victimization were associated with PTSD (Kimerling, Alvarez, Pavao, Kaminski, & Baumrind, 2007). Victimization during both childhood and adulthood, however, posed an extremely high risk for PTSD with an adjusted odds ratio of 12.4, adjusting for age, ethnicity, education, and poverty. IPV victims with PTSD with and without prior trauma histories may require the development of different types of interventions to meet their different needs.

*Coping.* Coping is an important, albeit complex, factor in understanding PTSD, as coping can be understood as predicting PTSD on the one hand and as an outcome of PTSD on the other. Avoidant coping has been found to predict greater PTSD. Krause and her colleagues (Krause, Kaltman, Goodman, & Dutton, 2008) found, in a sample of low-income, predominantly African American women, that avoidant coping predicted greater PTSD symptoms at 1-year using the PCL (PTSD Checklist, PCL-Civilian Version), even after controlling for baseline level of PTSD symptoms, social support, formal support, childhood sexual abuse,

and revictimization by abusive partner and others.

Coping self-efficacy refers to an individual's subjective appraisal of the ability to cope when faced with the demands of a stressful situation (Bandura, 1997). The relationship between self-efficacy and psychological distress has been well documented, although the focus has more often been on the role of self-efficacy in predicting mental health outcomes (Benight, Swift, Sanger, Smith, & Zeppelin, 1999; Maciejewski, Prigerson, & Mazure, 2000). Yet much of this work has been cross-sectional, precluding the possibility of examining the direction of influence.

In spite of the plethora of research involving self-efficacy, little research has examined its role in mediating the relationship between PTSD and associated health behaviors. Recently, Schnurr and Green (Schnurr & Green, 2004a) proposed a model linking PTSD and health behaviors via coping. Indeed, coping self-efficacy has emerged as a focal mediator of posttraumatic recovery (Benight & Bandura, 2004). Thus, coping self-efficacy may offer a potentially powerful and modifiable explanation for linking the negative psychological sequelae of violence, especially PTSD, to health behaviors.

The potential influence of PTSD on coping self-efficacy is an important one. For example, emotional dysregulation that is associated with PTSD may influence one's perception of the ability to control the subjective experience of (especially negative) emotion, particularly its intensity and duration, as well as to express that emotion to another person (Saarni, 1999). Skills of emotional regulation can contribute to an individual's sense of overall self-efficacy (Saarni, 1999). Furthermore, sexual abuse and subsequent PTSD have been posited to influence the development of self-efficacy in children (Diehl & Prout, 2002). Likewise, in adult women the experience of IPV may erode self-efficacy by challenging the belief (or supporting an existing belief) regarding one's capabilities of self-regulation. In support of this notion, Benight and Harper found that coping self-efficacy mediated the relationship between acute stress response and other posttraumatic outcomes. Finally, poor coping self-efficacy for coping with negative emotional distress

that results from PTSD may extend to physical health concerns and to health behaviors associated with them. Examination of the path linking PTSD and poor health outcomes via coping self-efficacy deserves attention, especially because poor self-efficacy provides an attractive target for intervention (Benight & Harper, 2002).

Supporting the importance of a social cognitive perspective, an interesting study involving African American women recruited in an inner-city public hospital and other health care settings within a larger study focusing on IPV and suicide (Bradley, Schwartz, & Kaslow, 2005), investigators examined the relationship between religious coping (using the RCOPE [Religious Coping Scale]), self-esteem, and PTSD. They considered coping and self-esteem as a mediator of the IPV to PTSD pathway and they also examined PTSD as a mediator of the IPV to coping and self-esteem pathways in a cross-sectional design. All models demonstrated meditational effects for PTSD, negative religious coping (e.g., questioning God's power, God's abandonment), and self-esteem, but the stronger effect was found for PTSD as a mediator of negative religious coping and self-esteem. The authors interpret their results within a social cognitive perspective that would suggest that PTSD may be interpreted by victims to reflect their inability to manage their emotions with a concomitant reduction in self-efficacy and self-esteem. Social support, an important resource related to coping, has also been associated with PTSD outcomes. Coker et al. (2002) found that social support, after controlling for frequency of IPV, reduced the risk for PTSD symptoms. These findings underscore the importance of incorporating the social cognitive perspective of meaning in any intervention for IPV victims with PTSD. These findings also suggest the importance of examining the meditational relationships between PTSD and coping with longitudinal data.

Considerations of the mediating role of coping in the IPV to PTSD relationship should also consider cultural variations in coping. El-Khoury and her colleagues (2004) found that abused African American women were significantly more likely to use prayer and less likely to seek help from a mental health

counselor compared to abused Caucasian women, although there were no differences in the likelihood of seeking help from clergy or medical professionals. Furthermore, African American women rated prayer as more helpful when they used it to cope. Yoshihama (2002) also demonstrated cultural differences in choice and perceived helpfulness of coping with IPV between U.S.- and Japan-born Japanese women. She found that Japan-born women were significantly less likely to use active coping strategies; they perceived them as less effective compared to U.S.-born Japanese women. More important, the more effective Japan-born women perceived active strategies, the more psychologically distressed they were, and the more effective they perceived passive strategies, the less psychologically distressed they were. Although Yoshihama did not examine PTSD, her study illustrates the important role that culture may play in understanding the role coping may have in the relationship between IPV and subsequent psychological distress.

*Revictimization.* Research findings that suggest that greater severity or intensity of IPV is related to greater PTSD also supports the hypothesis that IPV revictimization would be associated with more severe PTSD. Indeed, in a longitudinal study, revictimization by an abusive partner predicted great PTSD symptoms at 1-year follow-up (Krause et al., 2008).

Perhaps more interesting is the hypothesis of reverse causality, that is, the implication of PTSD in the pathway to revictimization. In a prospective study of low-income, predominantly African American women recruited in three community settings that provide services to IPV victims (civil protection order court, DV [domestic violence] criminal court, battered women's shelter), Krause, Kaltman, Goodman, and Dutton (2006) found that PTSD symptoms predicted reabuse by the same partner 2 year later. Interestingly, although women who were reabused reported higher avoidance and numbing (but not hyperarousal) symptoms at baseline, only numbing was significantly related to reabuse in the multivariable model, after controlling for baseline IPV severity, childhood abuse, and length of involvement in the

abusive relationship. Another 1-year prospective study (Perez & Johnson, 2008) using data from the Chicago Women's Health Study found that PTSD predicted reabuse, even after considering violence severity, help-seeking behaviors, and social support. These findings highlight the importance of not only examining PTSD as a risk factor for revictimization, but also exploring different influences of distinct PTSD symptom clusters.

No only does PTSD signal a greater risk for physical reabuse but also greater likelihood of recurrence of psychological abuse. Bell, Cattaneo, Goodman, and Dutton (2008) found that higher-level PTSD symptoms increased the risk of recurrent psychological abuse by more than 1.5 times (adjusted OR = 1.68) for an SD value increase of 1 in PTSD symptoms.

*Threat appraisal of ongoing risk.* Closely linked to revictimization is appraisal of ongoing risk of reabuse. Using the Primary Appraisal Scale (Folkman, Lazarus, Gruen, & DeLongis, 1986), Tyson and colleagues (Tyson, Herting, & Randell, 2007) found that top perceived threats reported by a sample of 92 sheltered abused women were related to economic issues (financial security, 24%; housing, 20.5%) child well-being (19.7%), physical safety (16.1%), and living independently (12.2%). Among women who were separated from their abusive partner, Tyson et al. found that PTSD predicted perceived threat to both their own and their child's well-being.

In predicting the accuracy of threat appraisal, a study of low-income African American women (Cattaneo, Bell, Goodman, & Dutton, 2007) found that PTSD did not increase the likelihood that women were wrong in the accuracy of their prediction of reabuse 1 year later. PTSD did, however, predict the type of error they made if, indeed, they were wrong. That is, women who were wrong in their prediction were likely to overestimate their risk (predict reabuse, but no reabuse occurred). In findings similar to those of Cattaneo (2007), Bell et al. (2008) found that when women were inaccurate in their prediction of psychological reabuse, those with higher PTSD symptoms were more likely to be inaccurate, although again there was no overall effect of PTSD on accuracy per se.

*Physical health.* A wide array of health problems have been associated with IPV (Kramer, Lorenzon, & Mueller, 2004). Furthermore, PTSD generally has also been associated with poor health outcomes, with the pattern of results paralleling that for IPV exposure and health. Individuals with PTSD report more symptoms and have increased rates of morbidity. Furthermore, PTSD affects the course and impact of illness (Green & Kimerling, 2004; Schnurr & Jankowski, 1999). Friedman and Schnurr (1995), Schnurr and Jankowski, and Schnurr and Green (2004b) proposed that PTSD is a major pathway by which violence exposure affects physical health. Increasing evidence addresses this mediation hypothesis in populations other than IPV victims (Schnurr & Spiro, 1999; Taft, Stern, King, & King, 1999; Wolfe, Schnurr, Brown, & Furey, 1994). These studies suggest that it may be PTSD, rather than trauma exposure alone, which results in health risk behaviors and greater morbidity and mortality among trauma survivors. Yet little research has yet examined this hypothesis directly among IPV survivors.

One exception is a study of 388 help-seeking women exposed to IPV (Taft, Vogt, Mechanic, & Resick, 2007) that examined PTSD symptoms as a mediator of the relationship between IPV and physical health symptoms. Using a modified version of the PILL (Pennebaker Inventory of Limbic Languidness), the investigators found that PTSD symptoms fully mediated the relationship between both physical and psychological aggression and physical health symptoms. Similarly, Dutton, Kaltman, Krause, and Green (2007) found that PTSD, but not depression, mediated the relationship between IPV severity and health functioning measured by SF-36 (Short Form 36) among low-income African American women.

Another recent study involved 298 women recruited from VA (Veterans Affairs) clinics offering health and mental health services (Campbell, Greeson, Bybee, & Raja, 2008). This study first examined clusters of women based on their experiences of childhood sexual abuse, adult sexual assault, IPV, and sexual harassment. Analysis compared three patterns of high levels of violence to a "low-all" cluster with low levels of all four types of violence.

Results demonstrated the impact of all the high-violence clusters on overall health (using the Cohen–Hoberman Inventory of Physical Symptoms—Revised Version; CHIPS-R), which was fully mediated by their levels of PTSD symptoms. Study results also examined the extent to which PTSD was differentially related to specific health symptoms. Again, PTSD symptoms fully mediated the effects of violence cluster membership fully on both pain and non-pain-related symptoms, although the relationship was stronger for pain-related health symptoms. PTSD has been shown to increase risk for yet other health-related outcomes, including nicotine-related physiological dependence (Weaver & Etzel, 2003) and pregnancy-related outcomes such as miscarriage (Morland, Leskin, Block, Campbell, & Friedman, 2008).

*Functioning.* The impact of PTSD reaches beyond health to other domains in the lives of trauma victims (Koch, Samra, Schultz, & Gatchel, 2005; Smith, Schnurr, & Rosenheck, 2005), including women exposed to IPV. For example, Kimerling found that PTSD and psychological abuse (but not physical violence) were independently associated with unemployment. Other indicators of functioning have also been implicated in the IPV and PTSD pathways, for example, including poor daily functioning (Harris-Britt, Martin, Li, Casanueva, & Kupper, 2004) and problems with parenting (Johnson & Lieberman, 2007; Samper, Taft, King, & King, 2004). These data support the potential deleterious effects of PTSD on wide areas of functioning and underscore the necessity to adopt a broad view in understanding the IPV and PTSD pathways in understanding the overall impact on the lives of IPV victims and in designed interventions to address these targets.

### **Gaps in Research Linking IPV and PTSD**

There is a rich literature focused on IPV, PTSD, and related outcomes. However, there remain significant gaps that require additional well-designed empirical study.

*Complex and longitudinal models.* Studies abound examining IPV, PTSD, and relevant other variables. However, with some notable

exceptions (Campbell, Greeson, Bybee, & Raja, 2008; Lee, Pomeroy, & Bohman, 2007; Taft et al., 2007), there exist few studies that utilize sufficiently large samples and complex statistical models to examine potential pathways linking the types of variables described here. In spite of a call for a more nuanced and sophisticated examination of IPV (Coker, Watkins, Smith, & Brandt, 2003), there still exists a dearth of published research using these models.

Similarly, prospective studies involving IPV and PTSD and other outcomes are lacking, again with some exceptions (Bell et al., 2008; Bell, Goodman, & Dutton, 2007; Hedtke et al., 2008; Krause et al., 2006, 2008; Perez & Johnson, 2008; Salomon, Bassuk, & Huntington, 2002). However, few studies have utilized prospective data in complex path models designed to untangle the relationships between IPV, PTSD, and related outcomes. Combining complex statistical modeling with prospective data would yield significant advances in our understanding of the causal pathways linking these variables.

*PTSD clusters.* There is emerging data concerning PTSD clusters and their differential relationship to other relevant variables (Krause et al., 2006; Sullivan & Holt, 2008; Weaver & Etzel, 2003). These data are needed to guide the development of the most effective interventions, tailored to nuances in expression of PTSD symptomatology. Furthermore, the general controversy concerning the best model of PTSD and related symptoms (Andrews, Joseph, Shevlin, &

Troop, 2006; King, King, Orazem, & Palmieri, 2006; Maes et al., 1998) requires application to IPV samples (Krause, Kaltman, Goodman, & Dutton, 2007) to ensure that theoretical developments in the field are informed by IPV, as well as other trauma types (e.g., combat).

*PTSD treatment research.* There exists a paucity of randomized clinical trial involving treatment for PTSD, especially those that consider the unique context of actual and perceived ongoing threat of continuing trauma. Although some treatment models have been evaluated (Kubany et al., 2004; Resick et al., 2008), they are few and not yet subject to implementation and dissemination research to understand how these treatments transfer to community settings where mental health services are sorely needed.

In sum, although not all women who experience IPV exhibit symptoms of PTSD, not all women who experience adverse mental health consequences of IPV show signs of PTSD. PTSD appears to be involved in the central pathway involving IPV and related adverse outcomes. Thus, for some women, PTSD may play a pivotal role in the development of interventions or the prevention of recovery from a broad array of problems. For this reason, greater attention to the role of PTSD in the lives of women exposed to IPV through research employing prospective data and using complex statistical models would greatly enhance our efforts to develop tailored and individualized approaches to treatment for so many women who need it.

## IMPLICATIONS FOR PRACTICE, POLICY, AND RESEARCH

### Research

- Researchers are encouraged to examine more complex relationships involving IPV and PTSD to include various mediators and moderators of the IPV and PTSD relationships.
- Greater attention is needed to describe the context of victims' lived experience in such a way that captures the multiple dimensions of IPV and the multiple types of adverse outcomes that follow from IPV exposure in the social and cultural context of individuals' lives. Although qualitative methods are well suited to this task, quantitative researchers are challenged to make more relevant their assessment of abuse—not merely individual tactics.

- There is greater need for longitudinal research to capture not just repeated measures over time but also complex statistical analyses to describe the patterns over time.
- Greater attention is needed to develop and evaluate interventions focused on specific symptom clusters.

### Practice and Policy

- Screening for lifetime traumas including childhood abuse, sexual assault and partner violence, PTSD, and comorbid depression, including suicidality, should be incorporated as a routine for persons with chronic health conditions, such as HIV/AIDS, diabetes, and hypertension. Similar screening and appropriate intervention

should also be incorporated from the perspective of prevention of subsequent adverse health conditions.

- Assessment of IPV should incorporate the multiple dimensions that have been identified as contributing uniquely to our understanding of various adverse outcomes. These dimensions would include physical violence, sexual abuse, psychological abuse, stalking, coercive control, and threat appraisal. It is the configuration of these elements that offers a more complete picture of the IPV victims' lived experience.
- Consider how the social and cultural context may influence both the risk for IPV and the conditional risk for PTSD and depression, given exposure to IPV. Also consider how context helps to shape the victim's response to both IPV and how she deals with the psychological, social, physical, and economic aftermath. Ensure that interventions are culturally sensitive.
- Consider interventions aimed at targets along the pathway from IPV to PTSD—not just the trauma or

symptoms per se. For example, interventions that address coping behavior or coping self-efficacy may be particularly effective.

- Consider that revictimization is defines many individuals' lives—both past and future. Incorporate a focus on safety to help reduce the risk of future revictimization. Consider that the impact of IPV may occur in the context of a lifetime of other types of trauma exposure. Furthermore, consider how symptoms of PTSD may themselves increase the risk for future revictimization and incorporate that perspective into interventions.
- Incorporate not only an assessment of prior trauma exposure but an assessment of the appraisal of ongoing threat, which has a strong and independent link to PTSD.
- Incorporate assessment of functioning, not just symptoms, to capture a more comprehensive perspective on adverse outcome associated with IPV and PTSD.

## REFERENCES

- Abbott, J., Johnson, R., Koziol-McLain, J., & Lowenstein, S. R. (1995). Domestic violence against women: Incidence and prevalence in an emergency department population. *Journal of the American Medical Association, 273*, 1763-1767.
- Alim, T. N., Charney, D. S., & Mellman, T. A. (2006). An overview of posttraumatic stress disorder in African Americans. *Journal of Clinical Psychology, 62*, 801-813.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental health disorders* (text revision). Washington, DC: Author.
- Andrews, L., Joseph, S., Shevlin, M., & Troop, N. (2006). Confirmatory factor analysis of posttraumatic stress symptoms in emergency personnel: An examination of seven alternative models. *Personality and Individual Differences, 41*, 213-224.
- Arias, I., & Pape, K. T. (1999). Psychological abuse: Implications for adjustment and commitment to leave violent partners. *Violence & Victims, 14*, 55-67.
- Bachman, R., & Saltzman, L. (1995). *Violence against women: Estimates from the redesigned survey, Special Report* (No. NCJ-154348). Washington, DC: Bureau of Justice Statistics, U.S. Department of Justice.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Bell, M. E., Cattaneo, L. B., Goodman, L. A., & Dutton, M. A. (2008). Assessing the risk of future psychological abuse: Predicting the accuracy of battered women's predictions. *Journal of Family Violence, 23*, 69-80.
- Bell, M. E., Goodman, L. A., & Dutton, M. A. (2007). The dynamics of staying and leaving: Implications for battered women's emotional well-being and experiences of violence at the end of a year. *Journal of Family Violence, 22*, 413-428.
- Benight, C. C., & Bandura, A. (2004). Social cognitive theory of posttraumatic recovery: The role of perceived self-efficacy. *Behavior Research and Therapy, 42*, 1129-1148.
- Benight, C. C., & Harper, M. L. (2002). Coping self-efficacy perceptions as a mediator between acute stress response and long-term distress following natural disasters. *Journal of Traumatic Stress, 15*, 177-186.
- Benight, C. C., Swift, E., Sanger, J., Smith, A., & Zeppelin, D. (1999). Coping self-efficacy as a mediator of distress following a natural disaster. *Journal of Applied Social Psychology, 29*, 2443-2464.
- Bennice, J. A., Resick, P. A., Mechanic, M., & Astin, M. (2003). The relative effects of intimate partner physical and sexual violence on posttraumatic stress disorder symptomatology. *Violence & Victims, 18*, 87-94.
- Bergman, B., & Brismar, B. (1991). Suicide attempts by battered wives. *Acta Psychiatrica Scandinavica, 83*, 380-384.
- Bonomi, A. E., Thompson, R. S., Anderson, M., Reid, R. J., Carrell, D., Dimer, J. A., et al. (2006). Intimate partner violence and women's physical, mental, and social functioning. *American Journal of Preventive Medicine, 30*, 458-466.
- Bradley, R., Schwartz, A. C., & Kaslow, N. J. (2005). Posttraumatic stress disorder symptoms among low-income, African American women with a history of intimate partner violence and suicidal behaviors: Self-esteem, social support, and religious coping. *Journal of Traumatic Stress, 18*, 685-696.
- Breslau N, Davis GC, Peterson EL, Schultz L. (1997). Psychiatric sequelae of posttraumatic stress disorder in women. *Arch Gen Psychiatry, 1997 Jan;54(1):81-87.*
- Breslau, N. (2002). Epidemiologic studies of trauma, posttraumatic stress disorder, and other psychiatric disorders. *Canadian Journal of Psychiatry, 47*, 923-929.
- Briere, J., & Jordan, C. E. (2004). Violence against women: Outcome complexity and implications for assessment

- and treatment. *Journal of Interpersonal Violence*, 19, 1252-1276.
- Campbell, R., Greeson, M. R., Bybee, D., & Raja, S. (2008). The co-occurrence of childhood sexual abuse, adult sexual assault, intimate partner violence, and sexual harassment: A mediational model of posttraumatic stress disorder and physical health outcomes. *Journal of Consulting and Clinical Psychology*, 76, 194-207.
- Cattaneo, L. B., Bell, M. E., Goodman, L. A., & Dutton, M. A. (2007). Intimate partner violence victims' accuracy in assessing their risk of re-abuse. *Journal of Family Violence*, 22, 429-440.
- Charuvastra, A., & Cloitre, M. (2007). Social bonds and posttraumatic stress disorder. *Annual Review of Psychology*, 59, 301-328.
- Coker, A. L., Smith, P. H., Thompson, M. P., McKeown, R. E., Bethea, L., & Davis, K. E. (2002). Social support protects against the negative effects of partner violence on mental health. *Journal of Women's Health & Gender-Based Medicine*, 11, 465-476.
- Coker, A. L., Watkins, K. W., Smith, P. H., & Brandt, H. M. (2003). Social support reduces the impact of partner violence on health: Application of structural equation models. *Preventive Medicine: An International Journal Devoted to Practice & Theory*, 37, 259-267.
- Coker, A. L., Weston, R., Creson, D. L., Justice, B., & Blakeney, P. (2005). PTSD symptoms among men and women survivors of intimate partner violence: The role of risk and protective factors. *Violence & Victims*, 20, 625-643.
- Diehl, A. S., & Prout, M. F. (2002). Effects of posttraumatic stress disorder and child sexual abuse on self-efficacy development. *American Journal of Orthopsychiatry*, 72, 262-265.
- Dutton, M. A. (1996). Battered women's strategic response to violence: The role of context. In J. L. Edleson & Z. Eisikovits (Eds.), *Future interventions with battered women and their families*. (pp. 105-124). Thousand Oaks, CA: SAGE.
- Dutton, M. A. & Goodman, L. A. in *9th International Family Violence Conference* (Portsmouth, NH., July, 2005).
- Dutton, M. A., Goodman, L. A., & Bennett, L. (1999). Court-involved battered women's responses to violence: The role of psychological, physical, and sexual abuse. *Violence & Victims*, 14, 89-104.
- Dutton, M. A., Goodman, L. B., & Schmidt, J. (2005). *Development and validation of a coercive control measure in intimate partner violence* (2001-WT-BX-0503). Washington, DC: National Institute of Justice.
- Dutton, M. A., Kaltman, S., Goodman, L. A., Weinfurt, K., & Vankos, N. (2005). *Patterns of intimate partner violence: Correlates and outcomes*. *Violence & Victims*, 20, 483-497.
- Dutton, M. A., Kaltman, S. I., Krause, E. D. & Green, B. L. in *International Society for Traumatic Stress Studies* (Chicago, IL, November, 2007).
- El-Khoury, M., Dutton, M., Goodman, L., Engel, L., Belameric, R., & Murphy, M. (2004). Ethnic differences in battered women's formal help-seeking strategies: A focus on health, mental health and spirituality. *Cultural Diversity & Ethnic Minority Psychology*, 10, 383-393.
- Folkman, S., Lazarus, R. S., Gruen, R. J., & DeLongis, A. (1986). Appraisal, coping, health status, and psychological symptoms. *Journal of Personality and Social Psychology*, 50, 571-579.
- Foa, E. B. & Jaycox, L. H. in *Efficacy and cost-effectiveness of psychotherapy*. *Clinical practice*; 45. (ed David Spiegel) 23-61 (American Psychiatric Publishing, 199
- Friedman, M. J., & Schnurr, P. P. (1995). The relationship between trauma, post-traumatic stress disorder, and physical health. In M. J. Friedman, D. S. Charney, & A. Y. Deutch (Eds.), *Neurobiological and clinical consequences of stress: From normal adaptation to post-traumatic stress disorder* (Vol. 507-524). New York: Raven Press.
- Glass, N., Perrin, N., Campbell, J. C., & Soeken, K. (2007). The protective role of tangible support on post-traumatic stress disorder symptoms in urban women survivors of violence. *Research in Nursing and Health*, 30, 558-568.
- Golding, J. M. (1999). Intimate partner violence as a risk factor for mental disorders: A meta-analysis. *Journal of Family Violence*, 14, 99-132.
- Green, B. L., & Kimerling, R. (2004). Trauma, PTSD, and health status. In P. P. Schnurr & B. L. Green (Eds.), *Trauma and Health: Physical health consequences of exposure to extreme stress*. Washington DC: American Psychological Association.
- Greenfeld, L. A. et al. *Violence by intimates: Bureau of Justice statistics factbook*. (US. Department of Justice, 1998).
- Griffing, S., Lewis, C. S., Chu, M., SAGE, R. E., Madry, L., & Primm, B. J. (2006). Exposure to interpersonal violence as a predictor of PTSD symptomatology in domestic violence survivors. *Journal of Interpersonal Violence*, 21, 936-954.
- Harris-Britt, A., Martin, S. L., Li, Y., Casanueva, C., & Kupper, L. L. (2004). Posttraumatic stress disorder and associated functional impairments during pregnancy: Some consequences of violence against women. *Journal of Clinical Psychology in Medical Settings*, 11, 253-264.
- Hedtke, K. A., Ruggiero, K. J., Fitzgerald, M. M., Zinzow, H. M., Saunders, B. E., Resnick, H. S., et al. (2008). A longitudinal investigation of interpersonal violence in relation to mental health and substance use. *Journal of Consulting and Clinical Psychology*, 76, 633-647.
- Heise, L. L. (1998). Violence against women: An integrated, ecological framework. *Violence Against Women*, 4, 262-290.
- Jaycox LH, Zoellner L, Foa EB.(2002). *Cognitive-behavior therapy for PTSD in rape survivors*. *J Clin Psychol*. 2002 Aug;58(8):891-906.

- Johnson, V. K., & Lieberman, A. F. (2007). Variations in behavior problems of preschoolers exposed to domestic violence: The role of mothers' attunement to children's emotional experiences. *Journal of Family Violence, 22*, 297-308.
- Jones, S. M., Bogat, G. A., Davidson Li, W. S., von Eye, A., & Levendosky, A. (2005). Family support and mental health in pregnant women experiencing interpersonal partner violence: An analysis of ethnic differences. *American Journal of Community Psychology, 36*, 97-108.
- Jones, L., Hughes, M., & Unterstaller, U. (2001). Post-traumatic stress disorder (PTSD) in victims of domestic violence: A review of the research. *Trauma, Violence & Abuse, 2*, 99-119.
- Kaslow, N. J., Thompson, M. P., Meadows, L. A., Jacobs, D., Chance, S., Gibb, B., et al. (1998). Factors that mediate and moderate the link between partner abuse and suicidal behavior in African American women. *Journal of Consulting and Clinical Psychology, 66*, 533-540.
- Kaslow, N. J., Thompson, M. P., Okun, A., Price, A., Young, S., Bender, M., et al. (2002). Risk and protective factors for suicidal behavior in abused African American women. *Journal of Consulting and Clinical Psychology, 70*, 311-319.
- Kessler, R. C. (2003). Epidemiology of women and depression. *Journal of Affective Disorders, 74*(1), 5-13.
- Kessler, R. C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C. B. (1995). Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry, 52*, 1048-1060.
- Kimerling, R., Alvarez, J., Pavao, J., Kaminski, A., & Baumrind, N. (2007). Epidemiology and consequences of women's revictimization. *Women's Health Issues, 17*(2), 101-106.
- King, L., King, D. W., Orazem, R. J., & Palmieri, P. A. (2006). Research on the latent structure of PTSD. *PTSD Research Quarterly, 17*(3), 1-3.
- Koch, W. J., Samra, J., Schultz, I. Z., & Gatchel, R. J. (2005). Posttraumatic stress disability after motor vehicle accidents: Impact on productivity and employment. In *Handbook of complex occupational disability claims: Early risk identification, intervention, and prevention*. (pp. 333-341). New York: Springer.
- Koopman, C., Palesh, O., Marten, B., Thompson, B., Ismailji, T., Holmes, D., et al. (2005). Child abuse and adult interpersonal trauma as predictors of posttraumatic stress disorder symptoms among women seeking treatment for intimate partner violence. In *Focus on post-traumatic stress disorder research*. (pp. 1-16). Hauppauge: Nova Science Publishers.
- Kramer, A., Lorenzon, D., & Mueller, G. (2004). Prevalence of intimate partner violence and health implications for women using emergency departments and primary care clinics. *Women's Health Issues, 14*(1), 19-29.
- Krause, E. D., Kaltman, S., Goodman, L., & Dutton, M. A. (2006). Role of distinct PTSD symptoms in intimate partner reabuse: A prospective study. *Journal of Traumatic Stress, 19*, 507-516.
- Krause, E. D., Kaltman, S., Goodman, L. A., & Dutton, M. A. (2007). Longitudinal factor structure of posttraumatic stress symptoms related to intimate partner violence. *Psychological Assessment, 19*, 165-175.
- Krause, E. D., Kaltman, S., Goodman, L. A., & Dutton, M. A. (2008). Avoidant coping and PTSD symptoms related to domestic violence exposure: A longitudinal study. *Journal of Traumatic Stress, 21*, 83-90.
- Krupnick JL. (2002). Brief psychodynamic treatment of PTSD. *J Clin Psychol. 2002 Aug;58*(8):919-32.
- Kubany, E. S., Hill, E. E., Owens, J. A., Iannce-Spencer, C., McCaig, M. A., Tremayne, K. J., et al. (2004). Cognitive trauma therapy for battered women with PTSD (CTT-BW). *Journal of Consulting and Clinical Psychology, 72*, 3-18.
- Lee, J., Pomeroy, E. C., & Bohman, T. M. (2007). Intimate partner violence and psychological health in a sample of Asian and Caucasian women: The roles of social support and coping. *Journal of Family Violence, 22*, 709-720.
- Lipsky, S., Field, C. A., Caetano, R., & Larkin, G. L. (2005). Posttraumatic stress disorder symptomatology and comorbid depressive symptoms among abused women referred from emergency department care. *Violence & Victims, 20*, 645-659.
- Maciejewski, P. K., Prigerson, H. G., & Mazure, C. M. (2000). Self-efficacy as a mediator between stressful life events and depressive symptoms: Differences based on history of prior depression. *British Journal of Psychiatry, 176*, 373-378.
- Maes, M., Delmeire, L., Schotte, C., Janca, A., Creten, T., Mylle, J., et al. (1998). The two-factorial symptom structure of post-traumatic stress disorder: Depression—avoidance and arousal—anxiety. *Psychiatry Research, 81*, 195-210.
- Mechanic, M. B., Weaver, T. L., & Resick, P. A. (2008). Mental health consequences of intimate partner abuse: A multidimensional assessment of four different forms of abuse. *Violence Against Women, 14*, 634-654.
- Morland, L. A., Leskin, G. A., Block, C. R., Campbell, J. C., & Friedman, M. J. (2008). Intimate partner violence and miscarriage: Examination of the role of physical and psychological abuse and posttraumatic stress disorder. *Journal of Interpersonal Violence, 23*, 652-669.
- Neighbors, H. W., Bashshur, R., Price, R., Donavedian, A., Selig, S., & Shannon, G. (1992). Ethnic minority health service delivery: A review of the literature. *Research in Community and Mental Health, 7*, 55-71.
- O'Leary, K. D., & Jouriles, E. N. (1994). Psychological abuse between adult partners: Prevalence and impact on partners and children. In *Handbook of developmental family psychology and psychopathology* (pp. 330-349). New York: John Wiley.
- Parker, B., McFarlane, J., Soeken, K., Silva, C., & Reel, S. (1999). Testing an intervention to prevent further abuse to pregnant women. *Research in Nursing & Health, 22*(1), 59-66.
- Pence, E., & Paymar, M. (1993). *Education groups for men who batter: The Duluth model*. New York: Springer.

- Pence, E., & Paymar, M. (1996). *Creating a process of change for men who batter*. Duluth: Minnesota Program Development, Inc.
- Perez, S., & Johnson, D. M. (2008). PTSD compromises battered women's future safety. *Journal of Interpersonal Violence, 23*, 635-651.
- Pico-Alfonso, M. A. (2005). Psychological intimate partner violence: The major predictor of posttraumatic stress disorder in abused women. *Neuroscience & Biobehavioral Reviews, 29*, 181-193.
- Resick, P. A., Galovski, T. E., O'Brien Uhlmansiek, M., Scher, C. D., Clum, G. A., & Young-Xu, Y. (2008). A randomized clinical trial to dismantle components of cognitive processing therapy for posttraumatic stress disorder in female victims of interpersonal violence. *Journal of Consulting and Clinical Psychology, 76*, 243-258.
- Resick, P. A., Nishith, P., Weaver, T. L., Astin, M. C. & Feuer, C. A. A comparison of cognitive-processing therapy with prolonged exposure and a waiting condition for the treatment of chronic posttraumatic stress disorder in female rape victims. *Journal of Consulting & Clinical Psychology 70*, 867-879 (2002).
- Resnick, H. S., Kilpatrick, D. G., Dansky, B. S., Saunders, B. E. & Best, C. L. Prevalence of civilian trauma and post-traumatic stress disorder in a representative national sample of women. *Journal of Consulting and Clinical Psychology 61*, 984-991 (1993).
- Saarni, C. (1999). *The development of emotional competence*. New York: Guilford.
- Salomon, A., Bassuk, S. S., & Huntington, N. (2002). The relationship between intimate partner violence and the use of addictive substances in poor and homeless single mothers. *Violence Against Women, 8*, 785-815.
- Saltzman, L. E., Fanslow, J. L., McMahon, P. M., & Shelley, G. A. (2002). *Intimate partner violence surveillance: Uniform definitions and recommended data elements* (Version 1). Atlanta, GA: Centers for Disease Control, National Center for Injury Prevention and Control, Division of Violence Prevention. (Originally published in 1999)
- Samper, R. E., Taft, C. T., King, D. W., & King, L. A. (2004). Posttraumatic stress disorder symptoms and parenting satisfaction among a national sample of male Vietnam veterans. *Journal of Traumatic Stress, 17*, 311-315.
- Schnurr, P. P., & Green, B. L. (2004a). Understanding relationships among trauma, PTSD, and health outcomes. In P. P. Schnurr & B. L. Green (Eds.), *Trauma and health: Physical health consequences of exposure to extremestress*. Washington, DC: American Psychological Association.
- Schnurr, P. P., & Green, B. L. (Eds.). (2004b). *Trauma and health: Physical health consequences of exposure to extreme stress*. Washington, DC: American Psychological Association.
- Schnurr, P. P., & Jankowski, M. K. (1999). Physical health and post-traumatic stress disorder: Review and synthesis. *Seminars in Clinical Neuropsychiatry, 4*, 295-304.
- Schnurr, P. P., & Spiro, A. (1999). Combat exposure, post-traumatic stress disorder symptoms, and health behaviors as predictors of self-reported physical health in older veterans. *Journal of Nervous and Mental Disease, 187*, 353-359.
- Smith, M. W., Schnurr, P. P., & Rosenheck, R. A. (2005). Employment outcomes and PTSD symptom severity. *Mental Health Services Research, 7*(2), 89-101.
- Sorenson, S., Upchurch, D., & Shen, H. (1996). Violence and injury in marital arguments: Risk patterns and gender differences. *American Journal of Public Health, 86*, 35-40.
- Sullivan, T. P., & Holt, L. J. (2008). PTSD symptom clusters are differentially related to substance use among community women exposed to intimate partner violence. *Journal of Traumatic Stress, 21*, 173-180.
- Taft, C. T., Stern, A. S., King, L. A., & King, D. W. (1999). Modeling physical health and functional health status: The role of combat exposure, posttraumatic stress disorder, and personal resource attributes. *Journal of Traumatic Stress, 12*, 3-23.
- Taft, C. T., Vogt, D. S., Mechanic, M. B., & Resick, P. A. (2007). Posttraumatic stress disorder and physical health symptoms among women seeking help for relationship aggression. *Journal of Family Psychology, 21*, 354-362.
- Takeuchi, D. T., & Uehara, E. S. (1996). Ethnic minority mental health services: Current research and future conceptual directions. In B. L. Levin & J. Petrila (Eds.), *Mental health services: A public health perspective* (pp. 63-80). New York: Oxford University Press.
- Tjaden, P. & Thoennes, N. The role of stalking in domestic violence crime reports generated by the Colorado Springs Police Department. *Violence & Victims 15*, 427-441 (2000).
- Tyson, S. Y., Herting, J. R., & Randell, B. P. (2007). Beyond violence: Threat reappraisal in women recently separated from intimate-partner violent relationships. *Journal of Social and Personal Relationships, 24*, 693-706.
- U.S. Department of Health and Human Services. (2001). *Mental health, culture, race, and ethnicity— a supplement to mental health: A Report of the Surgeon General*. Washington, DC: Author.
- Vogel, L. C., & Marshall, L. L. (2001). PTSD symptoms and partner abuse: Low-income women at risk. *Journal of Traumatic Stress, 14*, 569-584.
- Weaver, T. L., & Etzel, J. C. (2003a). Smoking patterns, symptoms of PTSD and depression: Preliminary findings from a sample of severely battered women. *Addictive Behavior, 28*, 1665-1679.
- Weissman, M. M., Bruce, M. L., Leaf, P. L., Florio, L. P., & Holzer, C. I. (1991). Affective disorders. In L. N. Robins & D. A. Regier (Eds.), *Psychiatric disorders in America: The epidemiologic catchment area study* (pp. 53-80). New York: Free Press.
- West, C. M., Williams, L. M., & Siegel, J. A. (2000). Adult sexual revictimization among black women sexually

abused in childhood: A prospective examination of serious consequences of abuse. *Child Maltreatment*, 5(1), 49-57.

Wolfe, J., Schnurr, P. P., Brown, P. J., & Furey, J. (1994). Posttraumatic stress disorder and war-zone exposure as correlates of perceived health in female Vietnam veterans. *Journal of Consulting and Clinical Psychology*, 62, 1235-1240.

Woods, S. J. (2000). Prevalence and patterns of posttraumatic stress disorder in abused and postabused women. *Issues in Mental Health Nursing*, 21, 309-324.

Yoshihama, M. (2002). Battered women's coping strategies and psychological distress: Differences by immigration status. *American Journal of Community Psychology*, 30, 429-452.



Mary Ann Dutton, PhD, is a clinical psychologist and professor in the Department of Psychiatry at Georgetown University in Washington, D.C. Her works are widely published in the area of domestic violence and trauma, with more than 40

peer-reviewed publications, 2 books, and 21 book chapters. She is currently funded with two NIMH (National Institute of Mental Health) grants on trauma interventions and one National Institute of Justice grant on the use and outcomes of protection orders, and she has extensive prior research support from those agencies and the Centers for Disease Control. She serves as an ad hoc grant review panel member for the NIH (National Institutes of Health), NIMH, NIJ (National Institute of Justice), CDC (Centers for Disease Control and Prevention), and the National Science Foundation. She testifies as an expert in domestic violence-related criminal and civil cases across the country and served for several years as codirector of the Domestic Violence Legal Clinic at the National Law Center at George Washington University. She presently serves on the board of the International Society for Traumatic Stress Studies and on the editorial boards of several journals in the fields of psychology, trauma, and violence against women. She is on the National Advisory Committee for the University of Kentucky Center for Research on Violence Against Women.

---

For reprints and permissions queries, please visit SAGE's Web site at <http://www.sagepub.com/journalsPermissions.nav>.