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**Publication Date**

2009

Peer reviewed|Thesis/dissertation

The Relationship of Two Types of Trauma Exposure  
to Current Physical and Psychological Symptom Distress

by

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THESIS

Submitted in partial satisfaction of the requirements for the degree of

MASTER OF SCIENCE

in

Community Health Systems

in the

GRADUATE DIVISION

of the



The Relationship of Two Types of Trauma Exposure  
to Current Physical and Psychological Symptom Distress  
in a Community Sample of Colombian Women: Why Interpersonal Violence  
Deserves More Attention  
Ashley M. Schumacher

Abstract

The purpose of this study was to examine the relationship between interpersonal violence and background traumas and symptom distress in a community sample of Colombian women ( $N = 217$ ). The Life Stressor Checklist-Revised was used to measure lifetime interpersonal violence and background trauma exposure. The Brief Symptom Inventory was used to measure current symptom distress. Although both exposures were common in this sample, interpersonal violence was strongly correlated with current symptom distress; background traumas made no unique contribution to the variance in current symptom distress. The findings suggest that interpersonal events may be particularly distressing.

## Table of Contents

Abstract .....	iii
Table of Contents .....	iv
List of Tables .....	v
Introduction .....	1
Review of Literature .....	1
Conceptual Framework .....	7
Methodology .....	8
Results .....	12
Discussion .....	14
Tables .....	20
References .....	24

## List of Tables

Table 1. Demographics .....	20
Table 2. Descriptive Statistics .....	21
Table 3. Correlations .....	22
Table 4. Multiple Regression Summary .....	23

## Introduction

The World Health Organization (WHO) has declared that interpersonal violence (IPV) is an urgent global health concern that affects millions of individuals worldwide (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002). IPV is associated with negative physical and mental health consequences such as symptom distress, depression, chronic pain, and posttraumatic stress disorder (PTSD; Campbell & Soeken, 1999). These sequelae are cumulative and last long after the abuse has ended (Fellitti, 1991; Follette, Polusny, Bechtle, & Naugle, 1996). Exposure to IPV appears to cause more severe health consequences than other types of trauma exposure (Breslau, Chilcoat, Kessler, Peterson, & Lucia, 1999), and research suggests that women are at higher risk than men to develop associated negative health consequences (Pimlott-Kubiak & Cortina, 2003). Although IPV is a global health issue, few international research studies have been conducted to describe the full range of IPV events and their effects (Romito, Turan, & De Marchi, 2004; Williams et al., 2007).

## Review of Literature

### *Trauma and Health*

The WHO defines IPV, a form of trauma, as “the intentional use of physical force or power, threatened or actual, against another person that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation” (Krug et al., 2002, p. 13). This definition encompasses not only physical and sexual abuse but also more subtle events, such as psychological abuse, sexual harassment, and neglect, which have negative effects on physical and psychological well-

being (Coker, Smith, Bethea, King, & McKeown, 2000; Richman et al., 1999; Street, Stafford, Mahan, & Hendricks, 2008).

Prevalence reports indicate that between 42% and 75% of women in the United States (U.S.) experience IPV (Green et al., 2000; Pimlott-Kubiak & Cortina, 2003) and many women report multiple events over the course of a lifetime (Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993; Tjaden & Thoennes, 1998). A telephone survey of a nationally representative sample of 8,000 women, sponsored by the Centers for Disease Control and Prevention, found that 55% of women had at least one IPV exposure in their lifetime. Fifty-two percent reported physical assault, 18% reported attempted or completed rape, and 25% reported intimate partner violence (Tjaden & Thoennes, 1998).

Besides physical injury and death, IPV exposure is associated with negative mental and physical health outcomes that persist long after the abuse has ended and result in increased health care utilization (Cortina, 2004; Follette et al., 1996; Sansone, Wiederman, & Sansone, 1998). Multiple researchers support a dose-response relationship between trauma exposure and health outcomes, reporting that more frequent and severe violence results in greater morbidity (Felitti, 1991; Follette et al., 1996). Specifically, investigators have linked IPV exposure to psychological symptom distress, depression, alcohol abuse, PTSD, and suicidal behavior (Breslau, Chilcoat, Kessler, & Davis, 1999; Davidson, Hughes, George, & Blazer, 1996; Fergusson, Horwood, & Lynskey, 1996; Messman-Moore, Long, & Siegfried, 2000; Stark & Flitcraft, 1995). Research also suggests that IPV-exposed women are at increased risk for reproductive health problems such as unwanted pregnancy and sexually transmitted diseases, as well as gastrointestinal problems, migraines, and chronic pain (Coker et al., 2000; Drossman et al., 1990; Plichta



& Falik, 2001). Although other types of trauma exposure have been associated with negative health consequences, multiple studies have reported that IVP outcomes are worse than those associated with non-interpersonal events (i.e., natural disasters; Breslau, Chilcoat, Kessler, & Davis, 1999; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995), leading some researchers to argue that intentional “high impact” events, such as IPV, put individuals at particular risk for health consequences (Pimlott-Kubiak & Cortina, 2003).

The trauma literature has also addressed non-interpersonal events such as being involved in or witnessing a serious accident, exposure to a natural disaster like a hurricane or earthquake, and the unexpected death of a loved one (Resnick et al., 1993; Williams et al., 2007). Resnick and colleagues studied a sample of 4,008 women, 33% of whom had experienced these events, although unexpected death of a loved one was put in a separate non-mutually exclusive group, likely giving a low estimate. Breslau and colleagues (1998) reported a much higher prevalence in a nationally representative telephone survey ( $N = 2,181$ ). Fifty-nine percent of the respondents reported these non-interpersonal events; however, unexpected death of a loved one was again placed in a separate group. This study, which included men and women, probably yields a higher prevalence of non-interpersonal events because men are more likely than women to experience such events, while women are more likely to experience IPV (Breslau et al., 1998; Pimlott-Kubiak & Cortina, 2003). Although researchers have suggested that non-interpersonal events also have a negative effect on health, multiple studies have shown that such effects are less severe than those associated with IPV exposure (Kessler et al., 1995; Resnick et al. 1993). Some authors have hypothesized that the intentional rather than accidental nature of trauma exposure may contribute to worse physical and

psychological outcomes (Green 1990; Herman, 1992), although the exact mechanism is unknown.

Women are more likely than men to experience IPV and are at higher risk of developing related symptoms (Norris, Foster, & Weisshaar, 2003). In a cross-sectional study, Kessler and colleagues (1995) found that the lifetime prevalence of PTSD was 5% for men and 10% for women, while 61% of men and 51% of women in their sample reported at least one trauma exposure in their lifetime. Some view this difference as feminine vulnerability (Breslau, Chilcoat, Kessler, Peterson et al., 1999), while other researchers attribute this effect to a difference in the extent and type of trauma exposure experienced by men and women, the main difference being that women experience a higher rate of sexual trauma (Cusack, Falsetti, & de Arellano, 2003; Cortina & Kubiak, 2006; Saxe & Wolfe, 1999).

### *Symptom Distress*

Symptom distress is one health outcome that has been frequently studied in the trauma literature (Humphreys, Lee, Neylan, & Marmar, 2001; Messman-Moore et al., 2000; Williams et al., 2007). Rhodes and Watson (1987) describe symptom distress as the physical or mental anguish or suffering that results from the experience of symptom occurrence and/or the perception of feeling states. Symptom distress can disrupt physical, mental, and social functioning and negatively affects health perception (Humphreys et al., 2008).

Symptoms prompt millions of people to visit their health care provider every year and may be the first indication of illness (Campbell & Roland, 1998; Humphreys et al., 2008). Because symptom distress has been linked to increased health care utilization

(Vedsted, Fink, Olesen & Munk-Jorgensen, 2001), decreased quality of life, and increased disease activity in some gastrointestinal and pulmonary disorders (Ketelaars et al., 1996; Porcelli, Leoci, & Guerra, 1996), it is a compelling health outcome to study. Although strong evidence links IPV exposure and symptom distress, the nature of this relationship is unclear. Green and Kimerling (2004) concluded that more research is needed to understand the relationship between IPV exposure and symptoms.

#### *Limitations of Existing Literature*

The trauma literature on IPV has several methodological limitations. First, the samples in the U.S. have largely been limited to clinical and college participants (Green et al., 2000; Messman-Moore et al., 2000; Schaaf & McCanne, 1998). Second, the definition and measurement of IPV exposure and the dependent variables studied have lacked uniformity, making comparisons across studies difficult (Acierno, Resnick, & Kilpatrick, 1997; Bachman & Saltzman, 1994; Breslau, Davis, Andreski, & Peterson, 1991; Carlson, 2005; Resnick et al., 1993). For example, many IPV studies focus on single events or types of IPV (e.g., rape and intimate partner violence) without screening for other trauma experiences in a person's history, making it impossible to link exposures and outcomes (Schnurr & Green, 2004). Considerable research has focused on the dependent variable of PTSD, which some authors have theorized to be the mediator between trauma exposure and health outcomes (Schnurr & Green, 2004), while others view it as an outcome of trauma exposure (Breslau et al., 1991; Pimlott-Kubiak & Cortina, 2004; Schaaf & McCanne, 1998). Humphreys and colleagues (2001), however, concluded that not all traumatized women experience PTSD and that emphasis on it alone overlooks the full range of psychological symptoms that fall outside of that syndrome.

Furthermore, work by medical anthropologists suggests that PTSD symptoms do not have the same meaning across settings placing into question the usefulness of such narrow diagnoses in other cultures (Bracken, Giller, & Summerfield, 1995; Kleinman, 1987).

### *International Perspective*

Despite the WHO's declaration of IPV as an urgent global health concern (Krug et al., 2002), few international studies have attempted to describe the full range of IPV events and their effects (Romito et al., 2004; Williams et al., 2007). As part of a public health approach to IPV, the WHO advocates defining and monitoring of the problem, with the first step being to reach consensus on global standards of behavior as they relate to human rights (Krug et al., 2002). However, the global prevalence of IPV against women has been difficult to measure due to cultural variance, lack of systems to report such occurrences, and, similar to the U.S. literature, inconsistencies in definition and measurement (Krug et al., 2002).

Colombia, a country in northwestern South America, is no exception to the paucity of studies outside of the U.S. that describe the full range of IPV events and their effects. Intimate partner violence is the most frequently studied type of IPV (Espinosa, Gutierrez, Mena-Munoz, & Cordoba, 2008; Mejia, Kliewer, & Williams, 2006; Tuesta & Borda, 2003). In an investigation exploring IPV exposure and health outcomes for women, Pallito and O'Campo (2004) reported a higher likelihood of unintended pregnancy in women who reported intimate partner violence. This is in the context of a country that has endured 40 years of armed internal conflict that continues even today (U.S. Department of State, 2009). Although internal security has improved since 2001, human rights groups continue to scrutinize Colombia for abuses perpetrated by guerrillas

and paramilitary forces (Amnesty International, 2007; Human Rights Watch, 2007). For example, the Ministry of Social Protection (2003) reports that 36% of internally displaced women, a population considered highly vulnerable to violence (Alzate, 2008), have been raped. Before 2001, Colombia was known as the “kidnap capital of the world” and had the highest homicide rate of any country worldwide (Fraser, 2001; United Nations, N.D.). In this “culture of violence” (Alzate, 2008; Ceasar, 2007), very little is known about IPV or its effects on Colombian women.

In summary, women around the world commonly experience IPV, which is associated with negative mental and physical health consequences. IPV is suggested to cause greater morbidity than other types of trauma exposures not interpersonal in nature, and these effects are cumulative and persist long after the violence has ended. Describing the problem of IPV and its effects has been limited internationally, including in Colombia where the presence of violence has been widely acknowledged.

In accordance with the public health approach advocated by the WHO, this study seeks to describe the occurrence of IPV in a community sample of Colombian women using an internationally agreed-upon definition and to explore the associations among IPV-exposure, non-interpersonal or unintentional traumatic events, and symptom distress.

### Conceptual Framework

Bronfenbrenner’s (1979) ecologic systems theory provides the conceptual framework for this study. Bronfenbrenner posits that an individual interacts within a series of nested environmental “layers”: (a) the microsystem that includes an individual’s biology and family, (b) the mesosystem that is two microsystems interacting, (c) the exosystem, external environments that indirectly influence the microsystem, and (d) the

macrosystem, the greater sociocultural context. Within this framework, traumatic events are viewed as occurrences that affect individuals within a larger socio-cultural context. An individual's exposure to trauma and response to it are shaped by the microenvironment of her or his biology and family unit. Her or his microsystem interacts with the mesosystem of the community, which is influenced by the macrosystem of the greater socio-cultural context. In turn, an individual's response to IPV affects the micro-, meso-, and macro-systems in which she or he exists. Because of these interactions, examining individual, community, and cultural variables is extremely important when researching and devising interventions for trauma.

### Methodology

This study is a secondary analysis of a dataset that used a cross-sectional design. The study seeks to describe (a) the occurrence of IPV and background trauma (BT) in a community sample of Colombian women, (b) the relationships among IPV exposure, (c) BT exposure, and (d) symptom distress among the women. We hypothesized that IPV and BT will be positively and significantly associated with symptom distress and that IPV will be associated with significantly more symptom distress than BT.

### *Participants*

A community-based sample of 217 female volunteers living in Medellin, Colombia were recruited using organizational announcements, community worker referral, and snowball sampling. Women aged 18 and older who could read and understand Spanish were eligible to participate in the study.

### *Procedure*

This study was approved by the Universidad de Antioquia in Medellín, Colombia and the Committee on Human Research of the University of California, San Francisco. All procedures were conducted by trained Colombian, Spanish-speaking women. They explained the study to women who were interested in participating and collected demographic information, such as economic status, age, level of education, employment, monthly income, and marital status, if they wished to enroll. Participants were then presented with Spanish versions of the Brief Symptom Inventory (BSI; Derogotis, 1993) and the Life Stressor Checklist-Revised (LSC-R; Wolfe & Kimerling, 1997), which they completed independently.

### *Measurements*

Four independent variables are included in the analysis: age, socioeconomic status, IPV, and BT. One dependent variable, current symptom distress, is measured.

Age and socioeconomic status were measured using an investigator-developed demographic questionnaire. Socioeconomic status was determined by the participants' report of their socioeconomic strata as categorized by their local government. Developed in Colombia in the 1980s, this categorization system uses dwelling and neighborhood characteristics (e.g., building materials used, the presence of a bar or factory on the same block; Rosero, 2004) to determine household rates and to grant allocations for public utilities like gas, water, and electricity. Those in stratum 1, or "low-low", receive the largest subsidy for utilities; those in stratum 6, or "high", must contribute to the cost of their utilities (Rosero, 2004). Although the system is not a direct measure of income, it provides information about the quality of the environment in which the participants live.

We measured IPV and BT with the LSC-R, a 30-item index of lifetime trauma exposure whose validity has been established for use with diverse populations of women (Wolf & Kimerling, 1997; Brown, Stout, & Mueller, 1999). The LSC-R assesses lifetime exposure to traumatic and stressful experiences and is tailored to the experiences of women (Wolfe & Kimerling, 1997). As part of the larger study, the LSC-R was forward and backward translated into Colombian Spanish and assessed for cultural appropriateness.

For the purpose of this study and following the work of McHugo and colleagues (2005), a summary variable was created to combine single-item data from the LSC-R into a meaningful aggregate to examine effects. Guided by the WHO's (2002) IPV definition, we chose ten LSC-R items that use behavior-specific language to assess for lifetime exposure to physical, sexual, and psychological abuse and neglect. The sum of IPV event types reported by the participants represents lifetime IPV exposure. Thus, scores can range from 0 to 10. Accounting for the occurrence of the full range of lifetime IPV exposures in this way avoids looking at isolated events, the responses to which are affected by previous events (Green et al., 2000). Of note, this does not replicate the work of McHugo and colleagues because they administered a modified version of the LSC-R and used a different operational definition of IPV, which was termed "interpersonal abuse". The main difference between their study of IPV and ours is their inclusion of witnessed events (McHugo et al., 2005).

Items from the LSC-R were similarly chosen to create a summary variable for BT. Six traumatic events were chosen, including only those that either are not directly



experienced (e.g. witnessed events) or are inherently unintentional (e.g., serious accident, earthquake, the sudden death of loved one).

The BSI is used to measure current symptom distress (Derogotis, 1993). This instrument, an abbreviated, 53-item version of the 90-item Symptom Checklist-90, is a self-report questionnaire designed to assess the occurrence of and distress related to several symptoms, including somatic symptoms (e.g., pain, nausea, feeling faint/dizzy, poor appetite, feeling hot/cold, weakness or numbness). On a 5-point scale from 0 (*not at all*) to 4 (*extremely*), participants are asked to rate their distress about particular symptoms in the “past week and today” (Derogotis, 1993). The BSI is structured around nine, primary, symptom dimensions, including somatization, obsessive-compulsiveness, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. Although not validated to stand alone, the primary symptom dimensions are combined into three global indices for scoring purposes: (a) the Global Severity Index (GSI), which accounts for the number of symptoms and their severity; (b) the Positive Symptom Total (PST), which reports the number of symptoms; and (c) the Positive Symptom Distress Index (PSDI), which is an intensity measure adjusted for the number of symptoms present. For the purpose of this study, current symptom distress was measured by the GSI, which is calculated by summing the responses to obtain a raw score and dividing it by the number of questions answered. The raw score is then converted into a standardized T score for comparison with normative groups. Standardized T scores  $\geq 63$  are considered cases and indicate the need for further evaluation (Derogotis, 1993). The most sensitive of the three global indices, the GSI has a test-retest reliability of .90

(Derogatis, 1993) and had a high consistency reliability in this sample (Cronbach's  $\alpha = .97$ ).

### *Analysis*

To describe the sample and answer the first research question, descriptive statistics are provided, including means and standard deviations (*SDs*) for all quantitative values and frequencies and percentages for categorical values. To answer the second research question and test the study's hypotheses, a multiple regression analysis was conducted. This analysis determines how well the four independent variables of age, socioeconomic stratum, IPV, and BT explain the total variance of current symptom distress as measured by the BSI's Global Severity Index.

## Results

### *Descriptive Statistics*

Two hundred seventeen women met the study criteria; however, seven participants were not included in the multiple regression analyses because of partially missing data. Women in the sample had a mean age of 37.5 (*SD* = 15.5) years, ranging from 18 to 79 years old (see Table 1). Nearly 80% ( $n = 173$ ) reported secondary education or higher, and half of those women (48%,  $n = 80$ ) had completed some tertiary education, including technical school, undergraduate, or graduate coursework. Only 31% of the women reported formal employment ( $n = 68$ ), while 28% ( $n = 61$ ) reported that they are homemakers or engage in other informal work. One in five ( $n = 48$ ) participants was a current student, and the remainder of the participants ( $n = 32$ ) were either retired or unemployed. Reports of the women's socioeconomic status were concentrated in strata 2 and 3, corresponding to "low-medium" and "medium low". Almost half of the women

(49%) reported being single, 33% reported a permanent partner, and the rest (13%) were divorced, separated, or widowed.

### *Occurrence of Trauma*

Nearly all of the participants (95%) reported some exposure to IPV or BT during their lifetime, and most women (77%) reported IPV specifically (see Table 2). Of the 167 women who reported IPV, most (83%) reported between one and three types of exposure (range 0 to 10), and the most frequently reported events were physical attack by a stranger ( $n = 115$ ) and emotional abuse ( $n = 76$ ). The most frequently reported BT event was the sudden death of a loved one, experienced by nearly 60% of the sample ( $n = 129$ ). Witnessing a serious accident ( $n = 100$ ) and witnessing a physical attack ( $n = 92$ ) were the next most-reported events. Just nine women reported no trauma exposure during their lifetime.

### *Symptom Distress*

Raw GSI scores were converted into standardized T scores according to the adult, nonpatient, female norm group (Derogotis, 1993). The overall sample of women had a mean T score of 67. The women were then divided into two groups based on IPV exposure: those with some IPV exposure ( $n = 163$ ) and those with none ( $n = 48$ ). The mean T score for the IPV-exposed group was 69; the mean T score for the group with no IPV exposure was 66. Tests of independence (the chi-square test or  $t$  test) revealed no significant differences between the two exposure groups in age, education, employment, socioeconomic status, or relationship status.

### *Relationships Among Study Variables*

To evaluate the relationships among study variables, Pearson correlations were calculated and are summarized in Table 3. IPV and BT were significantly correlated as were BT and age.

We conducted a multiple regression analysis to determine how well four independent variables explained the total variance in symptom distress. The analysis was run without seven of the original participants due to partially missing data. The overall model was significant, explaining 22.1% of total GSI variance ( $R^2 = .221$ ,  $F 4, 205$ ,  $p < .001$ ; see Table 4). In investigating the unique contribution of each of the four variables, IPV accounted for 13.84 % of the variance of GSI while holding the other variables constant ( $p < .001$ ). The  $R^2$  change value for BT was .0001 and not significant ( $p = .909$ ), confirming that BT did not uniquely explain any portion of the variance in GSI. Age and stratum explained 2.28% ( $p = .015$ ) and 2.8% ( $p = .007$ ) of the total variance, respectively.

## Discussion

In this community-based sample of Colombian women, a model with age, socioeconomic status, IPV exposure, and BT exposure explained 22.1% of the total variance in current physical and psychological symptom distress (i.e., GSI). IPV exposure appeared to be more detrimental than non-interpersonal events in this sample, which reflects the findings of previous literature, including the work of Green et al. (2000) ( $N = 2,507$ ) that placed female college students in groups based on trauma exposure and found women in the IPV groups had significantly more symptom distress than women without IPV exposure (i.e., no trauma exposure or non-interpersonal events only), as well as the work of Kessler et al. (1995) that compared lifetime rates of PTSD in

individuals exposed to IPV versus individuals reporting only non-interpersonal trauma, finding significantly higher rates among the IPV exposed women (21% to 49% versus 5% to 9%). However, exposure to BT did not contribute to the explained variance in current symptom distress beyond that contributed by IPV alone. This is in contrast with other work, such as the South Africa Stress and Health Study (Williams et al., 2007) which reported a significant association between BT events, such as natural disasters and the death of a loved one, and symptom distress. Similar associations have been reported by other investigators (Breslau et al., 1999; Resnick et al., 1993), though Green and colleagues (2000) also reported no difference in symptom distress between women reporting no trauma history and women reporting 1 non-interpersonal event. Our findings support the results of previous studies that suggest IPV is higher impact than other types of trauma exposure, which may be due to the intentional rather than accidental nature of IPV exposures (Green 1990; Herman, 1992). Our results, however, question the significance of BT exposure in this population.

The 95% prevalence of at least one IPV or BT exposure in this sample is high, even when compared with estimates from the South African study (Williams et al., 2007), which reported that 75% of their sample ( $N = 4,351$ ) had experienced at least one IPV or BT event in their lifetime. Their sample did however include both men and women. The prevalence of IPV in particular in this sample is 77%, compared with the 42% to 75% typically reported in U.S. samples (Green et al., 2000; Pimlott-Kubiak & Cortina, 2003). These findings suggest that both IPV and BT exposures may be more prevalent in this sample when compared with published data from other nations, which might in part be explained by the effect of armed conflict in Colombia over the last 40 years on this

sample with a mean age of 37.5; however, further study is required to confirm this interpretation.

In this sample of women, the most frequently reported IPV events were physical attack by a stranger (53%) and emotional abuse (35%). In one nationally representative U.S. sample (Tjaden & Thoennes, 1998) the most frequently reported IPV events are attempted or completed rape (20%), physical assault (19%) and child abuse (18%). The most frequently reported BT events in our sample were the sudden death of a loved one (59%), witnessing a serious accident (46%), and witnessing a physical attack (42%). Similarly, in Breslau and colleagues' (1998) study of a nationally-representative U.S. sample, the most frequently reported event was also sudden death of a loved one (60%), witnessing someone being killed or seriously injured (29%) and experiencing a serious accident (28%). Williams et al. (2007) also reported the death of a loved one (38%) more often than any other BT event in their South African study of both men and women. Further study of nationally representative Colombian samples is required to more fully understand the patterns of IPV and BT events to inform intervention strategies.

Overall, this sample of Colombian women is highly distressed. The mean T score for the full sample ( $m = 67$ ) exceeds 63, the criteria for caseness indicating severe distress (Deragotis, 1993). Ninety-two percent ( $n = 195$ ) of women scored in this range, which would suggest the need for additional clinical evaluation (Deragotis, 1993). The women in the IPV exposure group were even more distressed than those in the group with no IPV exposure, which is not surprising based on the findings of this and other studies that report associations between IPV exposure and symptom distress (Green et al., 2000; Kessler et al., 1995). Clearly, this finding suggests that health care professionals need to

explore both women's trauma exposures and distress so that they can receive the care they need. Even if this finding represents a cultural phenomenon or the effect of other variables outside the scope of this study, the pervasiveness of these women's distress requires further exploration.

With regard to the demographic characteristics of our sample, the women are highly educated when compared with national survey data (UNESCO, 2006; UNICEF, 2008). For example, fewer than 1% of university-aged women were enrolled in undergraduate classes in 2004 (UNICEF, 2008), compared with 23% of our sample who reported their last grade completed was at the university level. However, the clustering of participants in strata 2 and 3 closely resembles reported national distributions (Rosero, 2004) and suggests that the women in this sample may be more representative of the general population of Colombian women than the educational data alone suggests. Studies of nationally-representative samples, especially of the sociodemographic risks of IPV exposure and its effects in this population, is required because emerging international work has found differential exposure to trauma based in part on educational status (Myer, Stein, Grimsrud, Seedat, & Williams, 2008), among other socioeconomic characteristics. Further study should also examine internally displaced women, a group considered at very high risk for IPV (Alzate, 2008).

This study is the first to describe the full range of IPV events in a community sample of Colombian women. The results indicate that IPV is a real threat to the well-being of these women. Based on our findings, further research is needed in multiple areas: an in-depth description of IPV and its effects in Colombia, the development of intervention strategies, and the investigation of other health outcomes to further refine

interventions. As discussed, studies should use nationally-representative samples and samples of internally displaced women to fully describe the sociodemographic risk factors for trauma, the associated health effects, and the financial burden of those health effects. This data could inform policy reform.

Culturally appropriate intervention strategies to prevent the occurrence of IPV and to treat exposed women require further development. Based on our findings and previous reports (Breslau, et al., 1999; Kessler, et al., 1995), these efforts should address interpersonal events, which appear to be more detrimental, as well as women who report multiple trauma exposures because the dose-response relationship between IPV exposure and health outcomes has been well-documented in the U.S. literature (Felitti, 1991; Folette et al., 1996) and these women may require specific interventions.

Although symptom distress is a sensitive outcome measure, future research should describe the burden of trauma in terms of specific morbidities as seen in the U.S. literature, where associations between IPV exposure and specific mental and physical health outcomes, such as alcohol abuse, chronic pain and gastrointestinal disorders, have been reported (Coker et al., 2000; Pimlott-Kubiak & Cortina, 2003; Plichta, 2004). These findings would further inform interventions to ameliorate the negative health consequences of IPV, such as increasing awareness among health care personnel to promote screening and trauma-informed health care as advocated in the U.S. (Weissbecker & Clark, 2007). However, the cultural implications of such interventions are unknown at this time and would require further investigation.

This study has limitations. First, it is a secondary analysis of an existing dataset that was not collected specifically for the purposes of this study. Second, as is the case for



any study that asks its participants to recall distant events (i.e., childhood), the data are subject to recall bias. Due to the cross-sectional design, it is impossible to draw conclusions about causation, only association, between the independent and dependent variables. Third, the study's convenience sampling technique may be flawed. We know that our sample was more educated than national averages, but we do not know if the participants also differ from the general Colombian female population in important ways, limiting the generalizability of the findings. Nonetheless, we feel that our more educated sample strengthens the study's findings because education has been suggested to be protective (Myer et al., 2008). Finally, the study data may also be confounded by other community and political violence that was not captured in the measurements of this study.

### Conclusion

This study's findings suggest that trauma exposure is a pervasive problem that is associated with symptom distress in this community sample of Colombian women, and that IPV exposure may be particularly distressing when compared with BT. Similar to other reports of the link between IPV and symptom distress, IPV appears to be a real threat to the well-being of these women. Culturally-appropriate interventions to prevent its occurrence and ameliorate the associated physical and psychological symptomatology are needed.

Table 1

*Demographic Characteristics of the Full Community Sample of Colombian Women (N = 217)*

	<i>n</i>	<i>%</i>	<i>M</i>	<i>SD</i>
Age in years			37.5	15.5
Last grade completed ( <i>N</i> = 212)				
Primary school	39	18		
High school	93	42.9		
Technical school	17	7.8		
University	50	23		
Postgraduate	13	6		
Employment status ( <i>N</i> = 209)				
Unemployed	19	8.8		
Homemaker	45	20.7		
Informal worker	16	7.4		
Employed	68	31.3		
Student	48	22.1		
Retired	13	6		
Socioeconomic status ( <i>N</i> = 217)				
Very poor	24	11.1		
Poor	68	31.3		
Lower middle	72	33.2		
Upper middle	24	11.5		
Wealthy	16	7.4		
Very wealthy	12	5.5		
Relationship status ( <i>N</i> = 207)				
Single	107	49.3		
Permanent partner	71	32.7		
Separated/divorced	19	8.8		
Widowed	10	4.6		

*Note.* *N* variations are due to missing data.

Table 2

*Descriptive Statistics on Interpersonal Violence and Background Trauma*

	<i>n</i>	<i>%</i>
Exposure groups		
No trauma	9	4
IPV exposure only	13	6
BT exposure only	39	18
IPV and BT exposure	150	71
Interpersonal Violence		
Emotional abuse	76	35
Physical neglect	27	12.4
Physical attack by stranger	115	53
Physical abuse (child)	40	18.4
Physical abuse (adult)	38	17.5
Sexual harassment	25	11.5
Sexual abuse (child)	28	12.9
Sexual abuse (adult)	13	6
Rape (child)	9	4.1
Rape (adult)	7	3.2
Background trauma		
Serious disaster	40	18.4
Witnessed serious accident	100	46.1
Serious accident	52	24
Sudden death of loved one	129	59.4
Witnessed family violence	59	27.2
Witnessed physical attack	92	42.4

*Note.* IPV = interpersonal violence; BT = background trauma

Table 3

*Correlations Among Variables Predicting Symptom Distress*

	GSI	IPV	BT	Age	Stratum
GSI	--				
IPV	.410*	--			
BT	.128*	.302*	--		
Age	-.172*	-.042	-.134*	--	
SES	-.206*	-.086	.020	.024	--

*Note.* GSI = Global Severity Index; IPV = interpersonal violence; BT = background trauma; SES = socio-economic status

\*  $p < .05$ .

Table 4

*Multiple Regression Summary for Variables Predicting Current Symptom Distress*

(N = 211)

Source	$R^2$	$\beta$	$\Delta R^2$	$df$	$F$	$p^*$
Overall	.221			4, 205	14.53	<.001
IPV		.392	.138	1, 205	36.33	<.001
BT		-.077	.001	1, 205	.013	.909
Age		-.153	.023	1, 205	6.017	.015
SES		-.169	.028	1, 205	7.415	.007

*Note.* The  $N$  is 211 because seven subjects were lost due to missing data.

IPV = interpersonal violence; BT = background trauma; SES = socio-economic status

\* Coefficients are significant at  $p < .05$ .

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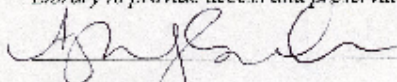
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