

## **EXPLORING INFLUENCES ON MENTAL HEALTH AFTER INTERPERSONAL VIOLENCE AGAINST WOMEN**

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**Abstract:** Women who have experienced intimate partner violence or sexual assault are well known to have extremely high rates of mental illness such as post-traumatic stress disorder and depression, as well as high rates of chronic illness, re-victimization, and suicide. The purpose of this in-depth analysis of the literature was to determine the relative impact of selected risk and resilience factors and the quality of existing evidence. The analysis of risk and resiliency pertaining to mental health impacts was guided by a social-ecological model, examining individual, relationship, community, and societal influences. An improved understanding of these factors and the quality of evidence underlying them can inform future research and interventions aimed at preventing or reducing the mental health impact of these crimes, and point to a direction for more inclusive examinations of the literature.

**Keywords:** interpersonal violence, mental health, women, social-ecological model, critical literature review

**Acknowledgements:** The authors would like to acknowledge funding support for this project from the Centre for Criminology and Justice Research at Mount Royal University.

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It is estimated that at least half of women have been sexually assaulted at least once by age 16 (Johnson, 2006) and that 45% of women over 16 years have experienced physical and/or emotional violence from a male in a relationship (Federal Provincial, 2002). The long-term consequences of these intimate forms of violence are devastating for the individual as well as for their families and the community, and place a significant burden on society. Both intimate partner violence and sexual assault result in extremely high rates of post-traumatic stress disorder (PTSD), depression, substance abuse, and suicide. These consequences, particularly PTSD and substance abuse, place women at further risk of vulnerability to re-victimization. Women are three times more likely to develop PTSD and depression than men (Acierno, Resnick, Kilpatrick, Saunders, & Best, 1999; Foa & Street, 2001). One of the numerous factors thought to explain this significant difference has been the more intimate nature of the traumas women experience, including intimate partner violence (IPV) and sexual assault (Carter-Snell & Hegadoren, 2003). An example of this may be seen when comparing rates of PTSD after various traumas. PTSD may develop in at least half of women after sexual assault (Gielen, McDonnell, O'Campo, & Burke, 2005), which is two to three times higher than for any other trauma including those involved in other crimes, motor vehicle collisions, or even disasters (Foa & Street, 2001; Kessler, Davis, & Kendler, 1997). These high rates are of great concern as when women develop disorders such as PTSD, their symptoms are more severe and more difficult to treat in comparison to men (Gielen et al., 2005; Kessler et al., 1997).

The presence of these mental health disorders is a concern not only for the woman, but also for her family and the community. Children who have a parent with depression or PTSD have a higher risk of developing these disorders (Johnson, Palmieri, Jackson, & Hobfoll, 2007; Norris & Feldman-Summers, 1981; Poortinga, Lemmen, & Majeske, 2007). Experiencing adverse childhood events such as having a parent with substance abuse issues, witnessing parental IPV, separation, or the death of a parent promotes an increased risk of developing substance use or chronic health issues later in life and even criminal behaviour (Chartier, Walker, & Naimark, 2010; Waldman, Perlman, & Cinotti, 2011). Women who have been sexually assaulted, in relationships or otherwise, have rates of health care utilization as much as four to five times higher than non-assaulted women and higher rates of chronic disease, particularly if they have mental health effects such as PTSD, depression, or substance abuse (Max, Rice, Finkelstein, Bardwell, & Leadbetter, 2004). Prevention of interpersonal violence or its effects is therefore an issue of great importance not only to the individual but also to the family, community, and society.

A number of factors have been identified in the literature as contributing to either risk or resilience for specific mental health problems. A preliminary review of the literature revealed varying types of risk factors and impacts, as well as diverse measures for some of the impacts. In a 1999 meta-analysis of IPV and mental health problems, prevalence rates of PTSD and substance use disorders were found to be varied, due largely to methodological differences, including sample populations, sample size, and measurement. Regardless, in this study the positive association between these mental health problems and IPV was found to be consistent (Golding, 1999). Similarly strong associations were found in meta-analyses of risks for PTSD after various forms of trauma including IPV and sexual assault in women (Brewin, Andrews, &

Valentine, 2000; Ozer, Best, Lipsey, & Weiss, 2008) and between sexual assault or abuse in children and adolescents (Trickey, Siddaway, Meiser-Stedman, & Serpell, 2012). These authors also found difficulties in measurement instruments used, risk factors identified, and heterogeneity of samples.

We therefore do not have a clear picture of the relative impact of these factors on risk and resiliency to mental health disorders after sexual assault or intimate partner violence. It is important to understand these factors before we can explore the interaction of factors and work toward effective prevention of adverse mental health effects with women who experience interpersonal violence.

The purpose of this review was to critically analyze the literature related to factors affecting mental health after two forms of interpersonal violence – intimate partner violence or sexual assault. This information will be used to guide future analyses and theory testing on risk and resilience with an aim to find ways to promote resilience to mental health effects of intimate violence against women. The objectives for this review were to identify the following among women who have been sexually assaulted or sustained intimate partner violence:

- Types of risk/resilience factors (individual, relationship, community, or societal) that may be associated with subsequent mental health effects
- Impact of the risk/resilience factors on mental health outcomes
- Quality of the existing evidence

### ***Theoretical Framework***

A social-ecological model (Krug, Mercy, Dahlberg, & Zwi, 2002) has been used widely to understand violence and violence prevention. The model continues to be developed and refined but emphasizes the importance of looking at violence prevention from multiple perspectives: individual, relationship, community, and societal. Individual factors, such as biological or genetic factors, age, personal history, or other factors unique to the individual, may influence women's risk or resilience to mental illness. The nature of the relationship between women and their partners, family members, neighbours, and colleagues is also consequential to their risk or resiliency. Mental health impacts of intimate forms of violence must also be addressed in the community as well as the cultural, social, and political contexts, including the structural inequalities of the wider society within which intimate forms of violence exist.

The interaction of multiple systems on the mental health outcomes of victims has also been recognized (Campbell, Dworkin, & Cabral, 2009). Examples included individual factors such as biological and genetic factors, characteristics of the assault (for instance, injuries or relationship to the assailant), and substance use. Additionally, this review examined mental health impacts at the micro-system level such as family and friends, meso-system factors such as legal, medical and mental health or crisis care systems, and macro-system factors such as societal rape myths, as well as the chrono-system factors such as sexual re-victimization and history of other victimizations. Some of the mental health impacts of particular concern in these reviews were post-traumatic stress disorder, depression, suicidality, substance use, and self-blame.

The preliminary range of risk and resilience factors we speculated for the review is summarized in Table 1. It was anticipated that this would be modified slightly as we proceeded through the literature if different terms were used for similar concepts. The mental health or illness outcomes used at the outset are summarized in Table 1.

**Table 1. Outcomes of Interest**

Mental Health	Mental Illness
Psychological well-being	Acute stress disorder or symptoms
Resiliency	Post-traumatic stress disorder or symptoms
Coping	Mood disorders or depression
Self-esteem/perception	Somatization
	Eating disorders
	Drug, alcohol, or other substance abuse

### Methods

This comprehensive review and analysis of the literature was shaped by our framework on social-ecological theory, related to factors that contribute to risk and resiliency in mental health outcomes after intimate forms of violence, and the level of available evidence. A comprehensive, critical literature review can be seen as: “a systematic, explicit, and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work produced by researchers, scholars, and practitioners” (Fink, 2010, p. 3). The methods we included in our review were: establishment of inclusion criteria; a strategy to search for available literature; and the evaluation of level of evidence. The available evidence was also organized within categories of individual, relationship, community, and societal risk and resiliency. Additional factors were added to the categories selected for data organizing until no new factors emerged.

#### *Literature Search Strategy*

We conducted a broad search of the literature to determine the types of probable risk and resilience factors described in the literature and their impact. Electronic databases were searched for published literature that included both a risk or resilience factor and a mental health outcome after women experienced either intimate partner violence or sexual assault. Multiple electronic databases, including PubMed, the Cumulative Index for Nursing and Allied Health Literature (CINAHL), and PsycINFO, were used. Keywords used for the search were chosen from MeSH headings or search headings consistent with each of the risk or resilience factors identified in the ecological model. Additional articles were obtained by hand searching the table of contents from key journals that had included at least five “gold standard” articles in the initial search. There were no restrictions placed on the date ranges or languages. Examples of search phrases included:

- Coping AND PTSD OR depression OR mental health OR psychological outcomes
- Support AND PTSD OR depression OR mental health OR psychological outcomes

### ***Inclusion Criteria***

Abstracts of the retrieved articles were reviewed to check if they met the inclusion criteria of this review. The inclusion criteria were the research studies that: (a) used and described systematic research methods; (b) examined mental health outcomes of women monarchical age or older; and (c) were considered in relation to at least one factor that may contribute to risk or resilience to the mental health outcome.

### ***Quality of Evidence***

Understanding the quality of available evidence is important to enable informed interventions as well as to identify areas requiring further evidence. Levels of evidence have been described in numerous sources (Rich, 2005). The categorization chosen for this review are those described for use in the Oxford Centre for Evidence Based Medicine (Sackett, 1996) as shown in Table 2.

**Table 2. Levels of Evidence**

1A	Systematic review of randomized controlled trials (RCTs)
1B	Individual RCTs with narrow confidence intervals
1C	All or none case series
2A	Systematic reviews with cohorts & homogeneity
2B	Cohort study & low quality RCT
2C	Outcomes research (audits, ecological studies)
3A	Systematic review of case controlled studies
3B	Case controlled study with non-consecutive cohorts
4	Case studies, poor cohort case controlled studies
5	Expert opinion without explicit critical appraisal

### **Results**

A total of 2,116 English language articles were identified through a combination of electronic databases, informal contacts and searchers for known key authors, and hand searches of tables of contents of key journals. The abstracts of the retrieved articles were reviewed to check if they met the inclusion criteria of this review. A total of 1,196 articles were rejected as they either did not meet the review criteria (580) or were duplicates (616). A subset of 920 articles was selected for a full review. An additional 820 were not included because they did not meet all of the search criteria (exposure, risk factor, or outcome) or were not available at the time of publication. A final sample of 100 articles was used for the review.

### ***Quality of the Evidence***

All of the studies identified were cohort studies, mostly retrospective in nature, reporting the rates of mental health consequences in relation to the existence of identified risk or resilience factors. This would make them level 2B at most. Convenience samples were predominant, although a few cohorts were compared to control groups of non-assaulted women. Sample sizes were generally moderate to large size (i.e., 100 to 500) and involved women or mixed gender samples of people who had been abused or assaulted, some of whom were in the community; others were in shelters or under police protection orders. There were a few studies in which very large samples were used from population surveys and data were extracted from a subgroup which reported abuse.

The reviews represented a wide variability of populations, relative to age (e.g., university age, adolescent), ethnicity (e.g., South Asian, African-American, Hispanic, and Italian women), and recruitment sites (e.g., universities, safe houses/shelters, particular clinics for women with HIV, drug and alcohol services, pre-natal clinics or legal services). Each of these studies had relatively small, non-comparable samples, limiting the generalizability of findings. Systematic reviews are considered to be level 2A. A few systematic reviews were located for PTSD in adults (Brewin et al., 2000; Ozer et al., 2008) and adolescents (Trickey et al., 2012) but the sample included multiple forms of trauma rather than just IPV or SA. Only one systematic review was focused on a single trauma, that of IPV (Golding, 1999). All reviewers described difficulties with inconsistency in samples, in measures, and in outcomes across studies.

### ***Outcomes Studied***

The most commonly studied mental health outcomes across both types of violence were the diagnoses of PTSD (53 studies) and depression (57) followed by anxiety (23). There were nine studies that looked at distress as an outcome, which had not been previously described in our outcomes, and eight that looked at self-esteem as a mental health outcome. All other mental health outcomes were discussed in between one and nine studies. A number of studies included subscales of PTSD as well. Only one study cited a resilience score as an outcome (Schultz, Roditti, & Gillette, 2009).

### ***Individual Risk Factors***

#### *a) Coping*

Individual factors associated with risk or resilience for mental health effects for both intimate partner violence and sexual assault are shown in Table 3. One of the key individual risks identified was coping skills with 33 studies having measured these risks, fairly equally between IPV and SA studies. Coping as a risk factor for mental health effects was found to be examined in a variety of ways with differing variables.

Among the concerns emphasized in the research related to personal coping skills as a risk factor for mental health effects following IPV were: learned helplessness, alcohol as a coping

mechanism, disengaged coping, and self-blame. Learned helplessness was also found to increase the risk for PTSD (Bargai, Ben-Shakhar, & Shalev, 2007). Increased risks for alcohol dependency as a maladaptive coping mechanism were described (Bergman, Larsson, Brismar, & Klang, 1989; Ullman, Filipas, Townsend, & Starzynski, 2006). What is referred to as disengaged coping was associated with increased depression and decreased self-esteem (Griffing, Lewis, Chu, Sage, Jospitre, Madry, et al., 2006). Disengagement also relates to social withdrawal that was found to increase PTSD; increased engagement was predictive of more positive mental health (Taft, Resick, Panuzio, Vogt, & Mechanic, 2007). Finally, one’s perception of poor coping ability was linked to increased trauma symptoms (Gorde, Helfrich, & Finlayson, 2004).

**Table 3. Individual Risks**

Individual Risks	Intimate Partner Violence (IPV)	Sexual Assault (SA)
Age	Young: more suicide, perhaps more depression, substance abuse, & severe PTSD. Older: more PTSD if threat to life.	Young: more PTSD if < 18 yrs old. Older: more effects if self-blame.
Race	Caucasians: more PTSD/ depression, more negative effects from negative disclosure reactions vs. Asians. More effects if less involvement in cultural activities.	More risk of drug/alcohol abuse for minority victims.
History of Prior Mental Illness	More depression/PTSD & marijuana dependency.	Prolonged recovery.
Prior Adult Sexual Assault (SA)	More dysfunctional coping, lower self-esteem.	More self-dysfunction, psychological problems, depression, anxiety, substance abuse, PTSD.
Childhood Sexual Assault (CSA)	More anxiety, depression, somatization, OCD, substance abuse if CSA.	Indeterminate effect on PTSD, more risk of adult victimization if PTSD and CSA history.
Health/Illness	More depression/suicide with IPV if HIV positive.	More psychiatric problems if HIV diagnosis related to sex work.
Coping Skills	More PTSD if learned helplessness, male domination, decreased resilience scores. More depression if disengaged/ avoidance coping. No effect from religious coping.	More PTSD if SA acknowledged. More distress with self-blame, not labelling as SA, maladaptive beliefs, negative religious coping or more avoidance. Better recovery if decreased self-blame, thought positively, had positive religious coping.
Education/ Marriage	Higher education: less psychological consequences/ depression and anxiety or married.	No effects of education, marital status.

Acknowledgement and labelling were studied as coping-associated risks in a variety of ways, all demonstrating differing risks to mental health following SA. In two studies,

acknowledgement of SA was found to increase PTSD symptoms and decrease distress (Littleton, Axsom, Breitkopf, & Berenson, 2006), and another study found the same PTSD effect but no effect on distress if SA was acknowledged (Littleton, 2007). An increase in alcohol abuse was found when SA was *not* labelled (McMullin & White, 2006), and these authors also found there to be no difference in well-being whether SA was labelled or not labelled.

Self-blame was found to have an effect with several studies identifying increased distress (Koss, Figueredo, & Prince, 2002; Koss & Figueredo, 2004), PTSD (Dunmore, Clark, & Ehlers, 1999), and depression (Frazier, 1990) with self-blame. There was an increase in short-term psychological effects identified if self-blame was compounded with authority involvement (Elizabeth, Notgrass, & Newcomb, 1990). Decreasing self-blame was found to help recovery (Koss & Figueredo, 2004).

Religious coping and beliefs had an impact on sexually assaulted women. The presence of positive coping resulted in lower levels of depression and trauma symptoms, as well as higher levels of well-being (Ahrens, Abeling, Ahmad, & Hinman, 2010; Fallot & Heckman, 2005). Conversely, negative beliefs such as seeing an assault as God's punishment, were associated with increased trauma symptoms (Fallot & Heckman, 2005). Religious coping was not found to impact mental health in a sample of African-American abused women (Reviere et al., 2007).

Thinking and beliefs played a role in the risk of coping found in the available research. Maladaptive beliefs in particular played a role in increasing distress (Koss, Figueredo, & Prince, 2002), as did withdrawal or avoidance forms of coping that also contributed to increased depression and PTSD (Frazier & Burnett, 1994; Littleton, 2007). Resiliency factors were minimally present in the literature, however increased adjustment was found to take place in women who took precautions and thought positively (Frazier & Burnett, 1994). Moreover, those who practiced a form of wishful thinking were found to have decreased risk for PTSD with positive distancing (Valentiner, Foa, Riggs, & Gershuny, 1996). Positive coping decreased the risk of suicide attempts and substance abuse (Ratner, 1993) and these strategies warrant further clarity and investigation.

*b) Individual Factors: A Focus on Previous Childhood Abuse / CSA*

Another important individual risk identified in the literature was previous childhood sexual abuse (CSA) or childhood physical assault (CA) with 22 studies having identified this as a risk for mental health outcomes among women experiencing IPV. Factors of particular concern included the child's relationship to the abuser, the severity of abuse, and witnessing parents assaulting each other.

Results suggest a significant link between CSA and depression (Lewis et al., 2006), OCD, anxiety and PTSD (Avdibegovic & Sinanovic, 2006), and the use of disengaged coping for women experiencing IPV. This disengaged coping style both predicted increased depression and decreased self-esteem (Lewis et al., 2006). It appears the above coping risks are of consequence to the population also exposed to the risk of previous childhood abuse and CSA. The interactive compounded effects of multiple risk factors appear of particular importance to this group.

*c) Individual Factors: A Focus on Age and Prior Illness*

Studies on age showed variable results. A few large studies implicated younger females to be at higher risk of mental illness. A national survey of teens in abusive relationships showed younger women had higher risks of suicide, substance abuse, re-victimization, and lower self-esteem (Ackard & NeumarkSztainer, 2002). A sample of 148 women in shelters showed that younger women had higher rates of depression, suicide, and greater PTSD severity (Sarasua, Zubizarreta, Echeburua, & De Corral, 2007). Older victims had more severe PTSD if there was a threat to life (Sarasua et al., 2007). By contrast, age was not found to be a significant factor in the development of depression, suicide, or anxiety in a study that involved a sample of 406 abused women in the community (Afifi et al., 2009).

Studies of age among SA victims also yielded mixed results and smaller samples. One large state-wide study cited increased PTSD if the assault happened before age 18 (Masho & Ahmed, 2007) and another indicated no significant impact of age on PTSD, suicide, or depression among a sample of 68 women in Bosnia (Loncar, Medved, Jovanovic, & Hotujac, 2006). Self-blame, related to the coping risks above, was found to be particularly present in older victims of SA, with older women experiencing increased negative short-term mental health effects (Elizabeth et al., 1990).

Histories of mental illness and illness or disability were risk factors identified in the literature. In a national probability sample of over 3,000 women, a prior history of mental illness was found to increase depression, PTSD, and substance abuse for SA victims (Acierno et al., 2007).

Overall, there were very few outcomes with more than one study with similar measures or instruments. One of these was the outcome of substance abuse after sexual assault (Kaukinen & DeMaris, 2005; Reviere et al., 2007; Thompson et al., 2003; Ullman et al., 2006). Sexually assaulted women who had histories of childhood sexual abuse were found to be significantly more likely to have substance abuse issues. Single studies also suggest women have higher risks of anxiety disorders, mood disorders, avoidance, anxiety, and PTSD if abused as children in addition to sexual assault as an adult, when compared to women who had no childhood abuse.

The impact of prior life-threatening trauma on the fear level of current sexual assault patients was only examined in one study (Ullman, Filipas, Townsend, & Starzynski, 2007). Fear levels were significantly higher after the sexual assault if the woman had experienced a prior life-threatening event. Certainly, with both IPV and SA, prior sexual assault and CSA were of consequence to a number of outcomes, including depression, substance abuse, and a range of anxiety disorders including PTSD. It is not just the individual risks that contribute to these mental health outcomes. Many overlapping and discrete relationship and community/societal factors are of consequence to risk and resilience for women experiencing interpersonal violence. The impact of relationship and community factors is shown in Table 4.

**Relationship & Community Factors**

The relationship factors studied included mainly the type and severity of violence and impact of available supports, some of which were related to community and societal beliefs. The major findings have been summarized in Table 4.

**Table 4. Relationship & Community Risks**

Risk	Intimate Partner Violence	Sexual Assault
Psychological violence	More PTSD, ASD, depression symptoms, alcohol use than with other types. More depression and PTSD with frequent stalking, harassment. More depression and PTSD if threats used in older women.	More psychological effects if more controlling behaviour, more PTSD/fear if threat to life.
Physical and sexual violence	More mental health days, eating disorders, suicidal ideation/or attempts, PTSD, depression, anxiety, somatization. Psychological: more PTSD, ASD, & depression.	More drug use if used force. More psychological outcomes if life threat, controlling behaviour.
Severity of violence	More negative psychological outcomes, depression, PTSD, anxiety, & suicide.	More psychological consequences.
Physical Injury	More depression, anxiety, somatization, ASD, & PTSD.	More PTSD.
Timing of violence	Recent/continuous: More effects, depression, & anxiety. More frequent: more symptoms, PTSD (less PTSD if stopped). Effect on depression indeterminate.	More anxiety if > one SA.
Informal Social Support	Negative response/less support: more psychological symptoms, PTSD, depression, distress. Positive response/support: less mental illness, distress, more self-esteem and resilience scores.	Negative response/less support: more psychological effects, PTSD. Positive response: No effect.
Formal Support	Indeterminate effect of using tangible supports, no effect of seeking shelter on anxiety or depression.	Increased psychological effects if more authority involvement.
Legal & Medical Professional Impact	Better psychological outcomes and well-being if satisfied with system/outcome, and treated positively.	Police & Health care negative reactions: More depression, anxiety, PTSD. Report to police or no prosecution: more negative effects. Health care: more negative effects if no HIV information or pregnancy prevention.

The nature of the relationship between the victim and offender was not examined in the IPV studies reviewed, although the actions of offenders (e.g., stalking) were considered. Among sexually assaulted women, however, PTSD symptoms were more likely if women knew their assailants (Gutner, Rizvi, Monson, & Resick, 2006; Lawyer, Ruggiero, Resnick, Kilpatrick, & Saunders, 2006) and were less likely to recover from their PTSD symptoms if the assailant was a stranger (Gutner et al., 2006). Women were more likely to have psychological effects if the assailant was a military co-worker (Gutner et al., 2006). Effects on military victims included depression, substance abuse, and alcohol abuse. The impact of other key relationship and community factors in the review are also shown in Table 4 above.

*a) Type and Severity of Violence*

The type of violence was found to be a key factor impacting mental health. Psychological violence such as the use of coercion or threats was associated with more PTSD symptoms across local and national studies (Coker et al., 2002b; DeMaris & Kaukinen, 2008; Dutton et al., 2006; Kocot, 2001). Also seen were increased symptoms of acute stress disorder (ASD) (Dutton et al., 2006) and depression (Dutton et al., 2006; Coot, 2001). Symptoms of depression and PTSD were greater among women in shelters if they had experienced more frequent stalking (Mechanic, Uhlmansiek, Weaver, & Resick, 2000; Mechanic, Weaver, & Resick, 2008).

Sexual assault in the context of IPV was associated with greater mental health impacts than was physical assault (DeMaris & Kaukinen, 2008; Taft et al., 2007). The combined effects of sexual and physical violence were notable for women. Victims of IPV who sustained both sexual and physical violence had more reported leave from work for reasons related to mental health (Martin et al., 2008), PTSD (DeMaris & Kaukinen, 2008; Weaver et al., 2007), and eating disorders (Ackard & NeumarkSztainer, 2002). Sexually assaulted women who also sustained more physical force were found to have more drug use following the assault (Winfield, George, Swartz, & Blazer, 1990).

The severity of violence was not uniformly defined or described, but in general women had more negative psychological outcomes after “severe” IPV. The consequences included more negative mental health symptoms in both a South Asian population (Kyu & Kanai, 2005) and North American women seeking protection orders after partner stalking (Logan & Walker, 2009). Women in national surveys who had experienced severe IPV were found to have more depressive symptoms (Dale et al., 2009) and more PTSD (DeMaris & Kaukinen, 2008). PTSD was also found among a survey of pregnant women with severe IPV (Martinez-Torteya, Anne Bogat, von Eye, & Levendosky, 2009). In contrast, among women in shelters there was no relationship between distress and severity of IPV (Humphreys, Lee, Neylan, & Marmar, 2001). Higher danger scores for women in shelters were associated with more depression, anxiety, and suicide (Sato-DiLorenzo & Sharps, 2007). Severity of the assault was also associated with negative psychological outcomes in sexual assault victims and more negative reactions from others (Ludermir, Schraiber, D'Oliveira, França-Junior, & Jansen, 2008).

More severe assaults would be expected to result in injury. The presence of physical injury was described as a risk factor for negative mental health consequences in both IPV and SA populations. There were higher rates of depression, anxiety, and somatization in college-aged victims of dating violence (Amar & Gennaro, 2005), increased acute stress disorder and PTSD in women involved in the court system for IPV (Dutton, Goodman, & Bennett, 1999), and PTSD in those women seeking help at shelters (Mechanic et al., 2008). Sexually assaulted women who sustained “physical injuries” had more risk of PTSD (Acierno et al., 1999; Bownes, O’Gorman, & Sayers, 1991; Winfield et al., 1990). The impact of genital injuries on women’s mental health was not described.

*b) Supports Available*

The responses of informal support people such as friends or family had significant impact on the mental health outcomes for both victims of IPV and SA. After IPV, women from both shelters and in the community demonstrated more mental health problems if there were limited social networks available or the support was negative (Kerouac, Taggart, Lescop, & Fortin, 1986; Lee & Hadeed, 2009). This lack of support resulted in increased distress (Borja, Callahan, & Long, 2006), increased anxiety and depression (Carlson, McNutt, Choi, & Rose, 2002), and both PTSD and depression (Carlson et al., 2002; Dunmore et al., 1999; Lee & Hadeed, 2009). This effect was found in Caucasian populations in particular (Dunmore et al., 1999; Lee & Hadeed, 2009). In contrast, social support as a construct was not found to be a contributing factor on mental health among a group of African-American women (Kocot & Goodman, 2003). These same authors, however, did find an increased risk for PTSD if women received mixed advice or poor advice such as remaining in the relationship. The opposite effect was also found for women after IPV— more positive social support was associated with better psychological outcomes. A national survey indicated decreased mental illness with more positive support (Coker et al., 2002a), and smaller studies also found less distress (Humphreys et al., 2001), as well as fewer mood disorders and increased resilience scores (Schultz et al., 2009). Additionally, decreased rates of depression were found if women received more family support (McGuigan & Middlemiss, 2005).

The impact of negative support is similar for women after sexual assault to that after IPV. If women received negative reactions after SA, they had increased psychological symptoms including PTSD (Ullman, 1996; Ullman et al., 2007; Ullman, Townsend, Filipas, & Starzynski, 2007). The results are less clear if women receive positive support or reactions after SA, however. Positive support was not found to increase psychological outcomes in one study (Ullman, 1996) but other researchers (Littleton et al., 2006) found that increased social support was linked to increased self-esteem and, thus, positive outcomes.

Formal support services can also adversely or positively impact the mental health of women (i.e., the type of response received from police or health care professionals). Victims who were satisfied with their legal involvement and perceived some control over the process had better mental health outcomes (Herman, 2003), and found the court processes especially helpful to their well-being if received positively by court personnel (Bell, Perez, Goodman, & Dutton, 2011). Women whose spouses were arrested had higher levels of PTSD unless their partner had a higher stake in conformity – a willingness to change (DeMaris & Kaukinen, 2008).

Some sexually assaulted women reported not seeking formal support as they feared the contact would result in worsened emotional responses or be harmful (Patterson, Greeson, & Campbell, 2009). Repeated studies with sexually assaulted women reveal that if women perceived negative responses from police or health care professionals, they had increased negative psychological outcomes including depression and anxiety (Campbell, 2005), with more than 80% stating they felt worse after seeking help from either police or health care personnel. Sexually assaulted women also had worse outcomes if they received incomplete treatment such as lack of pregnancy prevention or information on HIV risks (Campbell, Wasco, Ahrens, Sefl, & Barnes, 2001).

## Discussion

We completed a comprehensive and critical literature review to identify the types of risk and resilience factors (i.e., individual, relationship, community, or societal) that may be associated with subsequent mental health effects for women who experience interpersonal violence (i.e., sexual assault and intimate partner violence). Although a large number of studies were identified, it is recognized that the review is unlikely to be exhaustive of the literature given the review criteria and the large diverse set of risk and resilience factors. We do believe, however, that the literature is representative of the key concepts studied and the current state of the evidence.

In our review, the key risk factors for mental health problems after IPV included a history of CSA, the use of avoidance coping, receiving negative reactions or support, and having experienced psychological violence or sexual violence, especially if combined with physical violence. The role of threats and fear may be linked to the finding of increased PTSD if the violent spouse was arrested and had less desire to conform: These women were likely to be fearful for their lives when the spouse was released. Key factors in resiliency included the availability of positive support systems (i.e., informal and formal), higher education, marriage versus cohabitation, and having some control over the legal process.

Women who had been sexually assaulted were at higher risk of mental health problems if they used avoidance coping, had maladaptive beliefs such as self-blame or negative religious coping, if they sustained physical injury, or experienced negative reactions to disclosure. Resiliency to mental illness was enhanced with positive religious coping but the impact of other forms of positive support was not clear.

The total number of studies with measured outcomes and risk factors was somewhat modest despite the large number of studies that initially seemed to be eligible for this review. Despite the large number of risk and resilience factors and outcomes in the social-ecological model, we found relatively few articles for each factor or outcome. There were a significant number of articles which were unavailable at the conclusion of the review although they had been requested. In particular, there were few studies available relating to community or societal factors for our review.

The quality of the existing evidence was also of concern in our review. The studies were all cohort studies and mostly level 2B. Cohort studies are to be expected in violence research as randomized controlled trials are not possible. Despite these limitations, the presence of multiple smaller studies across different populations with similar findings strengthens the generalizability and confidence in the results. This is further strengthened by the results of related systematic reviews in which trauma types were mixed. For instance, factors such as education, previous trauma, and childhood adversity were more consistently identified as risk factors for PTSD across trauma types in a systematic review (Brewin et al., 2000), which is consistent with and supportive of the findings in this review. The severity of violence as a risk factor found in our review is consistent with the dose-response relationship between battering and mental health problems such as depression, PTSD, and substance abuse in another systematic review (Golding, 1999).

### **Implications for Practice**

In total, more articles dealt with risks for adverse mental health outcomes than resiliency factors. Professionals can do little with these risk factors (e.g., prior trauma, severity of violence) after the assault has occurred other than to identify the person as high risk for mental health effects. Effective secondary prevention of adverse mental health consequences depends upon the identification of resilience factors. This would allow the professionals to draw on these strengths to promote client agency, and to shape interventions in a manner informed by evidence. An example would be to help the individual to reframe events to reduce self-blame, or to identify individuals or agencies that may provide positive reactions and supportive resources.

Many of the studies used different assessment tools for the calculation of the outcomes, further limiting the ability to synthesize the results quantitatively. A mixed analysis is recommended for the subsequent systematic review – combining meta-analyses of two or more similar studies and a descriptive analysis of the factors. These findings are important for future research; attempts should be made to replicate studies with similar methods and instruments so that we can begin to approximate the effects of the factor on larger populations (Drotar, 2010; Lindsay & Ehrenberg, 1993).

Although the results of this review assist in identifying effects of various risk and resiliency factors for mental illness, the relative influence of each and interactions between factors are not identifiable with a critical review of this nature. Assessing the available evidence, however, will ideally identify areas for further examination and programmatic attention of the various risk or resiliency factors and the presence of mental illness in women after violence. The information from this review can then be used by justice and health care professionals to guide their actions when working with women after violent events to prevent the development of mental illness and its consequences and perhaps to promote resilience to these effects. It is hoped that dissemination of the results will help reduce women's risks of adverse mental health effects and further involvement in the health care and justice systems.

Future directions for research include replication of the research concepts, a full systematic review on selected key risk or resilience factors, and development and testing of a

theoretical model looking at the interaction of these factors. Further work is also required on interventions that are anticipated to reduce risks of mental illness. These findings will help inform design and testing of research aimed at prevention of adverse mental health consequences. One example would be measuring the mental health impact of education programs for the community, police, and health professionals related to use of responses such as psychological first aid and positive responses to disclosures. Another suggestion would be evaluating the effectiveness of the findings in identifying individuals at high risk for negative effects and subsequent focused interventions aimed at primary prevention of the violence as well as secondary prevention of its effects.

## References

- Acierno, R., Lawyer, S. R., Rheingold, A., Kilpatrick, D. G., Resnick, H. S., & Saunders, B. E. (2007). Current psychopathology in previously assaulted older adults. *Journal of Interpersonal Violence, 22*(2), 250–258. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=medl&AN=17202579>
- Acierno, R., Resnick, H., Kilpatrick, D. G., Saunders, B., & Best, C. L. (1999). Risk factors for rape, physical assault, and posttraumatic stress disorder in women: Examination of differential multivariate relationships. *Journal of Anxiety Disorders, 13*(6), 541–563.
- Ackard, D. M., & NeumarkSztainer, D. (2002). Date violence and date rape among adolescents: Associations with disordered eating behaviors and psychological health. *Child Abuse & Neglect, 26*(5), 455–473. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=psyc4&AN=2002-01598-002>
- Afifi, T. O., MacMillan, H., Cox, B. J., Asmundson, G. J., Stein, M. B., & Sareen, J. (2009). Mental health correlates of intimate partner violence in marital relationships in a nationally representative sample of males and females. *Journal of Interpersonal Violence, 24*(8), 1398–1417. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=medl&AN=18718882>
- Ahrens, C. E., Abeling, S., Ahmad, S., & Hinman, J. (2010). Spirituality and well-being: The relationship between religious coping and recovery from sexual assault. *Journal of Interpersonal Violence, 25*(7), 1242–1263. doi: 10.1177/0886260509340533
- Amar, A. F., & Gennaro, S. (2005). Dating violence in college women: Associated physical injury, healthcare usage, and mental health symptoms. *Nursing Research, 54*(4), 235–242. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=med4&AN=16027566>
- Avdibegovic, E., & Sinanovic, O. (2006). Consequences of domestic violence on women's mental health in Bosnia and Herzegovina. *Croatian Medical Journal, 47*(5), 730–741. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=medl&AN=17042065>

- Bargai, N., Ben-Shakhar, G., & Shalev, A. (2007). Posttraumatic stress disorder and depression in battered women: The mediating role of learned helplessness. *Journal Of Family Violence*, 22(5), 267–275. doi: 10.1007/s10896-007-9078-y
- Bell, M. E., Perez, S., Goodman, L. A., & Dutton, M. A. (2011). Battered women's perceptions of civil and criminal court helpfulness: The role of court outcome and process. *Violence Against Women*, 17(1), 71–88. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,url,cookie,uid&db=cm edm&AN=21199810&site=ehost-live>
- Bergman, B., Larsson, G., Brismar, B., & Klang, M. (1989). Battered wives and female alcoholics: A comparative social and psychiatric study. *Journal Of Advanced Nursing*, 14(9), 727–734. doi: 10.1111/1365-2648.ep8529658
- Borja, S. E., Callahan, J. L., & Long, P. J. (2006). Positive and negative adjustment and social support of sexual assault survivors. *Journal of Traumatic Stress*, 19(6), 905–914. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=medl&AN=17195986>
- Bowles, I. T., O'Gorman, E. C., & Sayers, A. (1991). Psychiatric symptoms, behavioural responses and post-traumatic stress disorder in rape victims. *Issues in Criminological & Legal Psychology*, 1(17), 25–33. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=psyc3&AN=1992-31522-001>
- Brewin, C. R., Andrews, B., & Valentine, J. D. (2000). Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *Journal of Consulting and Clinical Psychology*, 68(5), 748–766. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,url,cookie,uid&db=cm edm&AN=11068961&site=ehost-live>
- Campbell, R. (2005). What really happened? A validation study of rape survivors' help-seeking experiences with the legal and medical systems. *Violence & Victims*, 20(1), 55–68. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,url,cookie,uid&db=sih &AN=18296300&site=ehost-live>

- Campbell, R., Dworkin, E., & Cabral, G. (2009). An ecological model of the impact of sexual assault on women's mental health. *Trauma Violence & Abuse, 10*(3), 225–246. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=medl&AN=19433406>
- Campbell, R., Wasco, S. M., Ahrens, C. E., Sefl, T., & Barnes, H. E. (2001). Preventing the "second rape": Rape survivors' experiences with community service providers. *Journal of Interpersonal Violence, 16*(12), 1239–1259. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,url,cookie,uid&db=a9h&AN=5712446&site=ehost-live>
- Carlson, B. E., McNutt, L., Choi, D. Y., & Rose, I. M. (2002). Intimate partner abuse and mental health: The role of social support and other protective factors. *Violence Against Women, 8*(6), 720–745. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=psyc4&AN=2002-13703-002>
- Carter-Snell, C., & Hegadoren, K. (2003). Stress disorders and gender: Implications for theory and research. *The Canadian Journal of Nursing Research = Revue Canadienne De Recherche En Sciences Infirmières, 35*(2), 34–55. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,url,cookie,uid&db=cmedm&AN=12908196&site=ehost-live>
- Chartier, M. J., Walker, J. R., & Naimark, B. (2010). Separate and cumulative effects of adverse childhood experiences in predicting adult health and health care utilization. *Child Abuse & Neglect, 34*(6), 454–464. doi: 10.1016/j.chiabu.2009.09.020
- Coker, A. L., Smith, P. H., Thompson, M. P., McKeown, R. E., Bethea, L., & Davis, K. E. (2002a). Social support protects against the negative effects of partner violence on mental health. *Journal of Womens Health & Gender-Based Medicine, 11*(5), 465–476. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=med4&AN=12165164>
- Coker, A. L., Davis, K. E., Arias, I., Desai, S., Sanderson, M., Brandt, H. M., & Smith, P. H. (2002b). Physical and mental health effects of intimate partner violence for men and women. *American Journal of Preventive Medicine, 23*(4), 260–268. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=7915456&site=ehost-live&scope=site>

- Dale, L. P., Carroll, L. E., Galen, G., Hayes, J. A., Webb, K. W., & Porges, S. W. (2009). Abuse history is related to autonomic regulation to mild exercise and psychological wellbeing. *Applied Psychophysiology & Biofeedback*, 34(4), 299–308. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=medl&AN=19707870>
- DeMaris, A., & Kaukinen, C. (2008). Partner's stake in conformity and abused wives' psychological trauma. *Journal of Interpersonal Violence*, 23(10), 1323–1342. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,url,cookie,uid&db=h&AN=34286750&site=ehost-live>
- Drotar, D. (2010). Editorial: A call for replications of research in pediatric psychology and guidance for authors. *Journal of Pediatric Psychology*, 35(8), 801–805.
- Dunmore, E., Clark, D. M., & Ehlers, A. (1999). Cognitive factors involved in the onset and maintenance of posttraumatic stress disorder (PTSD) after physical or sexual assault. *Behaviour Research and Therapy*, 37(9), 809–829. doi: 10.1016/S0005-7967(98)00181-8
- 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(1), 89–104. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=med4&AN=10397628>
- Dutton, M. A., Green, B. L., Kaltman, S. I., Roesch, D. M., Zeffiro, T. A., & Krause, E. D. (2006). Intimate partner violence, PTSD, and adverse health outcomes. *Journal of Interpersonal Violence*, 21(7), 955–968. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=medl&AN=16731994>
- Elizabeth, G., Notgrass, C. M., & Newcomb, M. (1990). Internal and external mediators of women's rape experiences. *Psychology of Women Quarterly*, 14(2), 153–176. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=pbh&AN=8645117&site=ehost-live&scope=site>

- Fallot, R. D., & Heckman, J. P. (2005). Religious/spiritual coping among women trauma survivors with mental health and substance use disorders. *Journal of Behavioral Health Services & Research*, 32(2), 215–226. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=med4&AN=15834269>
- Federal Provincial, T. M. (2002). *Assessing violence against women: A statistical profile*. Retrieved from [http://www.swc-cfc.gc.ca/pubs/0662331664/index\\_e.html](http://www.swc-cfc.gc.ca/pubs/0662331664/index_e.html)
- Fink, A. (2010). *Conducting research literature reviews*. Thousand Oaks, CA: Sage Publications.
- Foa, E. B., & Street, G. P. (2001). Women and traumatic events. *Journal of Clinical Psychiatry*, 62, 29–34.
- Frazier, P. (1990). Victim attributions and post-rape trauma. *Journal Of Personality & Social Psychology*, 59(2), 298–304.
- Frazier, P. A., & Burnett, J. W. (1994). Immediate coping strategies among rape victims. *Journal of Counseling and Development*, 72, 633–639.
- Gielen, A. C., McDonnell, K. A., O'Campo, P. J., & Burke, J. G. (2005). Suicide risk and mental health indicators: Do they differ by abuse and HIV status? *Womens Health Issues*, 15(2), 89–95. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=med4&AN=15767199>
- Golding, J. M. (1999). Intimate partner violence as a risk factor for mental disorders: A meta-analysis. *Journal of Family Violence*, 14(2), 99–132. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=18331395&site=ehost-live&scope=site>
- Gorde, M. W., Helfrich, C. A., & Finlayson, M. L. (2004). Trauma symptoms and life skill needs of domestic violence victims. *Journal Of Interpersonal Violence*, 19(6), 691–708. doi: 10.1177/0886260504263871

- Griffing, S., Lewis, C. S., Chu, M., Sage, R., Jospitre, T., Madry, L., & Primm, B. J. (2006). The process of coping with domestic violence in adult survivors of childhood sexual abuse. *Journal Of Child Sexual Abuse, 15*(2), 23–41. doi: 10.1300/J070v15n02•02
- Gutner, C. A., Rizvi, S. L., Monson, C. M., & Resick, P. A. (2006). Changes in coping strategies, relationship to the perpetrator, and posttraumatic distress in female crime victims. *Journal of Traumatic Stress, 19*(6), 813–823. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=medl&AN=17195978>
- Herman, J. L. (2003). The mental health of crime victims: Impact of legal intervention. *Journal of Traumatic Stress, 16*(2), 159–166. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,url,cookie,uid&db=cm edm&AN=12699203&site=ehost-live>
- Humphreys, J., Lee, K., Neylan, T., & Marmar, C. (2001). Psychological and physical distress of sheltered battered women. *Health Care for Women International, 22*(4), 401–414. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=med4&AN=11813787>
- Johnson, D. M., Palmieri, P. A., Jackson, A. P., & Hobfoll, S. E. (2007). Emotional numbing weakens abused inner-city women's resiliency resources. *Journal of Traumatic Stress, 20*(2), 197–206. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=medl&AN=17427905>
- Johnson, H. (2006). *Measuring violence against women: Statistical trends 2006*. Ottawa: Statistics Canada. Retrieved from <http://www.statcan.ca/cgi-bin/downpub/listpub.cgi?catno=85-570-XIE2006001>
- Kaukinen, C., & DeMaris, A. (2005). Age at first sexual assault and current substance use and depression. *Journal of Interpersonal Violence, 20*(10), 1244–1270. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=psyc5&AN=2005-10871-005>

- Kerouac, S., Taggart, M. E., Lescop, J., & Fortin, M. F. (1986). Dimensions of health in violent families. *Health Care for Women International*, 7(6), 413–426. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=med2&AN=3641838>
- Kessler, R. C., Davis, C. G., & Kendler, K. S. (1997). Childhood adversity and adult psychiatric disorder in the U.S. national comorbidity survey. *Psychological Medicine*, 27(5), 1101–1119). Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=emed4&AN=1997288881>
- Kocot, T. G. (2001). Mental health outcomes and coping in battered women: The role of social support. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 61(8-B), 4410. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=psyc3&AN=2001-95004-171>
- Kocot, T., & Goodman, L. (2003). The roles of coping and social support in battered women's mental health. *Violence Against Women*, 9(3), 323–346. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=psyc4&AN=2003-09989-003>
- Koss, M. P., Figueredo, A. J., & Prince, R. J. (2002). Cognitive mediation of rape's mental, physical, and social health impact: Test of four models in cross-sectional data. *Journal of Consulting and Clinical Psychology*, 70(4), 926–941.
- Koss, M. P., & Figueredo, A. J. (2004). Cognitive mediation of rape's mental health impact: Constructive replication of a cross-sectional model in longitudinal data. *Psychology of Women Quarterly*, 28(4), 273–286.
- Krug, E. G., Mercy, J. A., Dahlberg, L. L., & Zwi, A. B. (2002). The world report on violence and health. *Lancet*, 360(9339), 1083–1088. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,url,cookie,uid&db=a9h&AN=7447714&site=ehost-live>
- Kyu, N., & Kanai, A. (2005). Prevalence, antecedent causes and consequences of domestic violence in Myanmar. *Asian Journal of Social Psychology*, 8(3), 244–271. Retrieved from [login.aspx?direct=true&db=rzh&AN=2009085471&site=ehost-live&scope=site](http://login.aspx?direct=true&db=rzh&AN=2009085471&site=ehost-live&scope=site)

- Lawyer, S. R., Ruggiero, K. J., Resnick, H. S., Kilpatrick, D. G., & Saunders, B. E. (2006). Mental health correlates of the victim-perpetrator relationship among interpersonally victimized adolescents. *Journal of Interpersonal Violence, 21*(10), 1333–1353. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=medl&AN=16940399>
- Lee, Y. S., & Hadeed, L. (2009). Intimate partner violence among Asian immigrant communities: Health/mental health consequences, help-seeking behaviors, and service utilization. *Trauma Violence & Abuse, 10*(2), 143–170. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=medl&AN=19383628>
- Lewis, C. S., Griffing, S., Chu, M., Jospitre, T., Sage, R. E., Madry, L., & Primm, B. J. (2006). Coping and violence exposure as predictors of psychological functioning in domestic violence survivors. *Violence Against Women, 12*(4), 340–354. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=psyc5&AN=2006-03484-003>
- Lindsay, R. M., & Ehrenberg, A. S. C. (1993). The design of replicated studies. *The American Statistician, 47*(3), 217–228.
- Littleton, H. L. (2007). An evaluation of the coping patterns of rape victims: Integration with a schema-based information processing model. *Violence Against Women, 13*, 789–801.
- Littleton, H. L., Axsom, D., Breitkopf, C. R., & Berenson, A. (2006). Rape acknowledgment and postassault experiences: How acknowledgment status relates to disclosure, coping, worldview, and reactions received from others. *Violence & Victims, 21*(6), 761–778. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=medl&AN=17220018>
- Logan, T., & Walker, R. (2009). Partner stalking: Psychological dominance or "business as usual"? *Trauma Violence & Abuse, 10*(3), 247–270. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=medl&AN=19433407>

- Loncar, M., Medved, V., Jovanovic, N., & Hotujac, L. (2006). Psychological consequences of rape on women in 1991-1995 war in Croatia and Bosnia and Herzegovina. *Croatian Medical Journal*, 47(1), 67–75. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=medl&AN=16489699>
- Ludermir, A. B., Schraiber, L. B., D'Oliveira, A., França-Junior, I., & Jansen, H. A. (2008). Violence against women by their intimate partner and common mental disorders. *Social Science & Medicine*, 66(4), 1008–1018. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=rzh&AN=2009871592&site=ehost-live&scope=site>
- Martin, S. L., Rentz, E. D., Chan, R. L., Givens, J., Sanford, C. P., Kupper, L. L., et al. (2008). Physical and sexual violence among North Carolina women: Associations with physical health, mental health, and functional impairment. *Womens Health Issues*, 18(2), 130–140. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=medl&AN=18319149>
- Martinez-Torteya, C., Anne Bogat, G., von Eye, A., & Levendosky, A. A. (2009). Resilience among children exposed to domestic violence: The role of risk and protective factors. *Child Development*, 80(2), 562–577. doi: 10.1111/j.1467-8624.2009.01279.x
- Masho, S. W., & Ahmed, G. (2007). Age at sexual assault and posttraumatic stress disorder among women: Prevalence, correlates, and implications for prevention. *Journal of Women's Health (15409996)*, 16(2), 262–271. doi: 10.1089/jwh.2006.M076
- Max, W., Rice, D. P., Finkelstein, E., Bardwell, R. A., & Leadbetter, S. (2004). The economic toll of intimate partner violence against women in the United States. *Violence & Victims*, 19(3), 259–272.
- McGuigan, W. M., & Middlemiss, W. (2005). Sexual abuse in childhood and interpersonal violence in adulthood: A cumulative impact on depressive symptoms in women. *Journal of Interpersonal Violence*, 20(10), 1271–1287. doi: 10.1177/0886260505278107
- McMullin, D., & White, J. W. (2006). Long-term effects of labeling a rape experience. *Psychology Of Women Quarterly*, 30(1), 96–105. doi: 10.1111/j.1471-6402.2006.00266.x

- Mechanic, M. B., Uhlmansiek, M. H., Weaver, T. L., & Resick, P. A. (2000). The impact of severe stalking experienced by acutely battered women: An examination of violence, psychological symptoms and strategic responding. *Violence & Victims, 15*(4), 443–458. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=med4&AN=11288940>
- 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*(6), 634–654. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=med1&AN=18535306>
- Norris, J., & Feldman-Summers, S. (1981). Factors related to the psychological impacts of rape on the victim. *Journal of Abnormal Psychology, 90*(6), 562–567. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=med2&AN=7320325>
- Ozer, E. J., Best, S. R., Lipsey, T. L., & Weiss, D. S. (2008). Predictors of posttraumatic stress disorder and symptoms in adults: A meta-analysis. *Psychological Trauma: Theory, Research, Practice, and Policy, 5*(1), 3–36. doi: 10.1037/1942-9681.5.1.3
- Patterson, D., Greeson, M., & Campbell, R. (2009). Understanding rape survivors' decisions not to seek help from formal social systems. *Health & Social Work, 34*(2), 127–136. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=psyc&AN=2009-05905-006>
- Poortinga, E., Lemmen, C., & Majeske, K. (2007). A comparison of criminal sexual conduct defendants based on victim age. *Journal of Forensic Sciences, 52*(6), 1372–1375. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=psyc5&AN=2008-18065-002>
- Ratner, P. A. (1993). The incidence of wife abuse and mental health status in abused wives in Edmonton, Alberta. *Canadian Journal of Public Health, 84*(4), 246–249.

- Reviere, S. L., Farber, E. W., Twomey, H., Okun, A., Jackson, E., Zanville, H., & Kaslow, N. J. (2007). Intimate partner violence and suicidality in low-income African American women: A multimethod assessment of coping factors. *Violence Against Women, 13*(11), 1113–1129. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=medl&AN=17951588>
- Rich, N. C. (2005). Levels of evidence. *Journal of Women's Health Physical Therapy, 29*(2), 19–20.
- Sackett, D. L. (1996). Evidence based medicine: What it is and what it isn't. *British Medical Journal, 312*, 71–72.
- Sarasua, B., Zubizarreta, I., Echeburua, E., & De Corral, P. (2007, August). Psychopathological profile of battered women according to age. *Psicothema, 19*(3), 459–466. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=emed8&AN=17617986>
- Sato-DiLorenzo, A., & Sharps, P. W. (2007). Dangerous intimate partner relationships and women's mental health and health behaviors. *Issues in Mental Health Nursing, 28*(8), 837–848. doi: 10.1080/01612840701493535
- Schultz, P., Roditti, M., & Gillette, M. (2009). Resilience, social support, and psychological disturbance in Hispanic women residing in a battered women's shelter on the U.S./Mexico border. *Hispanic Health Care International, 7*(4), 224–230. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=emed9&AN=2010015277>
- Taft, C. T., Resick, P. A., Panuzio, J., Vogt, D. S., & Mechanic, M. B. (2007). Coping among victims of relationship abuse: A longitudinal examination. *Violence & Victims, 22*(4), 408–418. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=medl&AN=17691549>
- Thompson, K. M., Crosby, R. D., Wonderlich, S. A., Mitchell, J. E., Redlin, J., Demuth, G., et al. (2003). Psychopathology and sexual trauma in childhood and adulthood. *Journal of Traumatic Stress, 16*(1), 35–38. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=med4&AN=12602650>

- Trickey, D., Siddaway, A. P., Meiser-Stedman, R., & Serpell, L. (2012). A meta-analysis of risk factors for post-traumatic stress disorder in children and adolescents. *Clinical Psychology Review, 32*(2), 122–138. Retrieved from [http://www.sciencedirect.com/science?\\_ob=GatewayURL&\\_method=citationSearch&\\_urlVersion=4&\\_origin=EBSCOHOST&\\_version=1&\\_piikey=S0272-7358%2811%2900187-5&md5=2b4ead9d0ff7a71301d5067801eef9e](http://www.sciencedirect.com/science?_ob=GatewayURL&_method=citationSearch&_urlVersion=4&_origin=EBSCOHOST&_version=1&_piikey=S0272-7358%2811%2900187-5&md5=2b4ead9d0ff7a71301d5067801eef9e)
- Ullman, S. E. (1996). Social reactions, coping strategies, and self-blame attributions in adjustment to sexual assault. *Psychology of Women Quarterly, 20*(4), 505–526. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=psyc3&AN=1996-06926-003>
- Ullman, S. E., Filipas, H. H., Townsend, S. M., & Starzynski, L. L. (2006). Correlates of comorbid PTSD and drinking problems among sexual assault survivors. *Addictive Behaviors, 31*(1), 128–132. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=medl&AN=15899554>
- Ullman, S. E., Filipas, H. H., Townsend, S. M., & Starzynski, L. L. (2007). Psychosocial correlates of PTSD symptom severity in sexual assault survivors. *Journal of Traumatic Stress, 20*(5), 821–831. doi: 10.1002/jts.20290
- Ullman, S. E., Townsend, S. M., Filipas, H. H., & Starzynski, L. L. (2007). Structural models of the relations of assault severity, social support, avoidance coping, self-blame, and PTSD among sexual assault survivors. *Psychology of Women Quarterly, 31*(1), 23–37. doi: 10.1111/j.1471-6402.2007.00328.x
- Valentiner, D. P., Foa, E. B., Riggs, D. S., & Gershuny, B. S. (1996). Coping strategies and post-traumatic stress disorder in female victims of sexual and nonsexual assault. *Journal of Abnormal Psychology, 105*(3), 455–458.
- Waldman, H. B., Perlman, S., & Cinotti, D. A. (2011). Adverse childhood experiences affect later life well being. *Exceptional Parent, 41*(2), 27–29. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,url,cookie,uid&db=rzh&AN=2010930315&site=ehost-live>

Weaver, T. L., Allen, J. A., Hopper, E., Maglione, M. L., McLaughlin, D., McCullough, M. A., & Brewer, T. (2007). Mediators of suicidal ideation within a sheltered sample of raped and battered women. *Health Care for Women International*, 28(5), 478–489. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=medl&AN=17469001>

Winfield, I., George, L. K., Swartz, M., & Blazer, D. G. (1990). Sexual assault and psychiatric disorders among a community sample of women. *American Journal of Psychiatry*, 147(3), 335–341. Retrieved from <http://login.ezproxy.library.ualberta.ca/login?url=http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=N&PAGE=fulltext&D=med3&AN=2309952>