Intervention to Reduce Traumatic Stress Following Intimate Partner Violence: An Efficacy Trial of the Moms’ Empowerment Program (MEP)

Sandra A. Graham-Bermann and Laura E. Miller

Abstract: A 10-week, group therapeutic-oriented community-based intervention, the Moms’ Empowerment Program (MEP), was tested with 181 children and their mothers exposed to intimate partner violence (IPV) during the past year. Women’s experiences of intimate partner violence and traumatic stress were assessed with standardized measures. A sequential assignment procedure allocated participants to three conditions: mother-plus-child intervention (M+C), child-only intervention (CO), and a wait list comparison (CG). The ten-session group intervention program was designed to empower women thereby reducing traumatic stress and enhancing their coping in the aftermath of exposure to IPV. Eighty-one percent were diagnosed with PTSD. While women in all three conditions improved over time, those in the M+C condition showed the greatest reduction in traumatic stress as compared to CO or CG conditions. Of those M+C women diagnosed with PTSD, the reliable change rate was 85% no longer diagnosed.

Violence is a common and potentially traumatic event in the intimate relationships of women around the world. In the U.S. 24% of women report severe violence and one-third report mild violence during their lifetime from an intimate partner (Centers for Disease Control and Prevention, 2010). Severe intimate partner violence (IPV) includes being beaten, burned or choked, and mild IPV includes being pushed, shoved and slapped (CDC, 2012). Further, because the majority of nonfatal IPV occurs at home, approximately 15.5 million children live in a home where IPV has occurred in the past year, an estimated 80% of whom
are direct eye-witnesses to these events (Graham-Bermann, Lynch, Ban-
yard, Devoe, & Halabu, 2007; McDonald, Jouriles, Ramisetty-Mikler,
Caetano, & Green, 2006). The annual cost to women and society is esti-
imated at more than 8 billion dollars in lost wages, medical and mental
health care (CDC, 2003; Max, Rice, Finkelstein, Bardwell, & Leadbetter,
2004), making this an issue of pressing national concern.

EFFECTS OF IPV ON WOMEN’S PHYSICAL HEALTH

In addition to the financial and societal costs of IPV, women who
experience IPV are also at risk for developing physical injuries, heath
problems, depression, anxiety, and traumatic stress disorder (Ellsberg,
Jansen, Heise, Watts, & Garcia-Moreno, 2008; Lilly & Graham-Bermann,
2009, 2010). Abused women are 80% more likely to have a stroke, 70%
more likely to have heart disease, and 60% more likely to have asthma
than non-abused women (CDC, 2008). IPV has also been associated
with women’s greater substance use and abuse (Martino, Collins, &
Ellickson, 2005). Further, most abused women face serious economic
challenges, are isolated from sources of support, struggle to raise chil-
dren who are also impacted by IPV, and may need assistance with legal
protection, medical help, and referral to other services (e.g., Breiding,
Black, & Ryan, 2008; Perenjape, Heron, & Kaslow, 2006; Staggs, Long,
Mason, Krishnan, & Riger, 2007).

EFFECTS OF IPV ON WOMEN’S MENTAL HEALTH

Many abused women are traumatized by their experiences of vio-
lence, reporting symptoms of PTSD in the domains of re-experiencing
(e.g., having intrusive thoughts about the violence), avoidance and
numbing (e.g., avoiding reminders of the violence), and hyperarousal
(e.g., feeling on edge or on-guard; Diagnostic and Statistical Manual for
Mental Disorders, 4th edition, text revision; American Psychiatric As-
sociation, 2000). Researchers report that 31–84% of IPV survivors are di-
agnosed with PTSD and 40–60% experience depression (Astin, Ogland-
Hand, Coleman, & Foy, 1995; Becker, Stuewig, & McCloskey, 2010; Cas-
cardi, O’Leary, & Schlee, 1999; Golding, 1999; Kubany & Watson, 2002).
A dose-response relationship has been identified between IPV and
PTSD. Here, greater amounts of IPV are correlated with greater PTSD
symptoms and increased likelihood of PTSD diagnosis (Coker, Weston,
Creson, Justice, & Blakeney, 2005; Mertin & Mohr, 2000). Even after end-
ing the violent relationship, these problems can persist if women do not receive mental health intervention (Campbell & Soeken, 1999; Zlotnick, Johnson, & Kohn, 2006). Further, the presence of PTSD and depression have cascading effects, as they increase the risk of IPV re-victimization and greater subsequent physical health problems (Iverson, Resick, Suvak, Walling, & Taft, 2011; Kubany, Leisen, Kaplan, & Kelly, 2000).

Researchers have examined how specific symptoms of PTSD place women at risk and indicate that symptoms of emotional numbing are especially predictive of IPV re-victimization (Krause, Kaltman, Goodman, & Dutton, 2006) while re-experiencing symptoms may put women at risk for other types of interpersonal violence exposure (Cougle, Resnick, & Kilpatrick, 2009). Women’s experience of PTSD symptoms has also been found to partially mediate the relationship between IPV and substance use/abuse (Sullivan, Ashare, Jaquier, & Tennen, 2012). Research on specific symptom categories shows women who abuse drugs are significantly more likely to experience symptoms of hyperarousal as compared to those who abuse alcohol (Sullivan & Holt, 2008). In addition, women who have recently experienced IPV are significantly less likely to initiate treatment for PTSD than women who have never experienced IPV or who have not experienced IPV in the past year (Iverson, Resick, Suvak, Walling, & Taft, 2011). In sum, women are at high risk for experiencing symptoms of PTSD following IPV victimization, and the experience of such symptoms is linked to poor outcomes in a number of domains including lower help-seeking behaviors for these difficulties.

LINKING TRAUMA THEORY TO IPV

Trauma theory posits that women exposed to overwhelming and catastrophic events (here, experiencing IPV) may develop problems that can persist and interfere with their functioning. The core symptoms of posttraumatic stress include hypervigilance and/or physiological arousal, with unwanted intrusions of traumatic material, and with emotional numbing or dissociation from the intense feelings associated with having experienced a traumatic event (DSM-IV-TR; APA, 2000). Chronic and prolonged exposure to trauma is labeled “complex trauma,” which describes a subset of those experiencing PTSD who show extreme reactions of rage, helplessness, and disruption of self-regulation and coping in addition to their primary diagnostic symptoms (Courtois & Ford, 2009). Herman (1992) characterized the reactions of women who experience repeated violence as “chronic stress syndrome.” Here the woman has little chance to recover from previous
violent events, as the abuse is often repeated and increases in severity over the course of the relationship.

In biological terms, the body normally adapts to potentially traumatic events by activating neural and neuroendocrine systems that maintain homeostasis, referred to as allostasis (McEwen, 1998). However, when the system is overloaded by too frequent activation, such as in chronic exposure, the allostatic load increases, which requires greater neuroendocrine response to recover from stress (McEwen, 2000) and, over time, interferes with the ability to process events and manage emotions effectively (Mathews & Gallo, 2011).

Psychologically, specific to the issue of IPV, fear and anxiety are hypothesized to occur when the woman feels unprotected, and is highly vulnerable and endangered (Lilly, Valdez, & Graham-Bermann, 2011). The psychological maltreatment of the woman includes threats to do harm or reminding her of past violence, thereby keeping her in a state of distress as she remembers past traumas and anticipates additional ones. Women exposed to family violence may continue to live in the setting where violence occurred and may have ongoing contact with their abuser (Graham-Bermann, Sularz, & Howell, 2011). Thus, they are often chronically stressed and may become overwhelmed, leading to difficulty in talking about, processing, and responding to events.

Exposure to IPV may not be the only traumatic event they have experienced. The women may have been raised in families that were either violent or neglectful, thus challenging early attachment and their ability to develop mature interpersonal relationships. As children they may have internalized negative interpersonal schemas that hamper their ability to feel empowered and to be effective as parents today (Levendosky & Graham-Bermann, 2000). As adults, the women may have internalized negative connotations of themselves from their abusers, as emotional abuse is the most common control tactic employed by abusers (Graham-Bermann, Lynch, Banyard, Devoe, & Halabu, 2007).

**LINKING THEORY TO INTERVENTION**

Interventions based on trauma theory emphasize the need to tell the story and to break through the silence imposed by either isolation or direct threats from the abuser not to tell others or talk about abuse they have endured. Similarly, the identification and processing of feelings associated with the violence work to reduce the traumatic and immobilizing emotional effect. The cathartic experience is postulated to relieve the woman of the burden, as well as to reconnect appropriate emotions to events, and to reduce posttraumatic symptoms of re-experiencing.
and physiological arousal. When neural and neuroendocrine systems are activated less often, homeostasis is maintained and coping can improve.

A number of therapies have been established to treat those with PTSD, including Traumatic Incident Reduction (Valentine, 1995), EMDR (Shapiro, 1989), Prolonged Exposure, and Cognitive Processing Therapy (Resick, Nishith, Weaver, Astin, & Feuer, 2002). Meta-analyses of therapy for adults with PTSD show that more than half treated with some type of cognitive behavior therapy, EMDR, or reprocessing improve and that the rate of reliable change is between 63–72% overall (Bradley, Greene, Russ, Dutra, & Westen, 2005). More specifically, using per-protocol analyses, in seven studies of EMDR 47–83% were no longer diagnosable, while in eight studies of Exposure therapy improvement was between 57–79%, and four studies of CBT showed 34–79% reductions in diagnosed individuals (Bradley et al., 2005). However, most existing treatments focus on discrete traumatic events, are nonspecific to women exposed to IPV and are designed for use with individuals.

THE MOMS’ EMPOWERMENT PROGRAM (MEP)

The present study seeks to evaluate the trauma symptoms of women exposed to IPV and test whether their participation in a community-based group intervention program can significantly reduce their traumatic stress. The Moms’ Empowerment Program (MEP; Graham-Bermann, 1994/2011) was designed to address the needs of abused women using group therapy with an interpersonal relationship focus. Based in part on Sullivan’s (1953) interpersonal theory, the MEP emphasizes the whole person and explores strengths and abilities that can be used to compensate for biopsychosocial dysfunction. Rather than focus on psychopathology, interpersonal relationships are the nexus of the MEP treatment. Given the women’s histories of violence and abuse, and for many, dysfunction in their family of origin, the group was designed to provide a venue for exploring relationship issues, including parent–child relationships, expectations derived from their family of origin, and social support. By telling their IPV story, connecting events to emotional reactions, identifying their fears and worries, and enhancing their self-esteem, the women may reduce their level of traumatic stress and recover from PTSD.

A healing feature offered by therapy for traumatic exposure is the normative and empathic response of group therapists and group members providing the opportunity for the woman to make sense of (give meaning to) otherwise overwhelming and senseless event(s) in a safe
environment. Women can and do have a strong impact on one another by serving a comparative function. For example, by sharing life stories, groups of women can reflect how one woman’s experience is like or unlike that of others. Groups provide a reparative function. Women begin to feel better by association with other women, and by receiving positive responses or support from their peers. New information can be gleaned from the experiences of others, including the therapist; thus groups provide an educational function. In particular it is important for women to know that they are not alone, to know that others have survived similar difficulties and to experience new ways of understanding their children and their needs. It is presumed that, with the support of the other women and the therapist, women will find an atmosphere conducive to discussing concerns about their children and about themselves, conducive to gaining insight into their family histories and to enhancing their mental health and parenting skills in the small group setting. Along the way it is hoped that the women in the MEP can reduce their distress and begin to heal from the traumas they have endured.

The groups meet once per week for 10 weeks. Two therapists lead the one-hour sessions, with 8–10 women in each group. MEP group therapists are community service providers, such as therapists at local mental health clinics, or graduate students in clinical psychology and social work at the University of Michigan, as was the case for the present study. Therapists receive intensive training in clinical work with women exposed to IPV, including identifying and treating symptoms of traumatic stress, as well as ethical issues in working with at-risk populations. All therapists follow a training manual that describes session topics, the research evidence for relevant issues, and example process notes. In the present study therapists received weekly supervision by the first author where process notes were reviewed and treatment adherence discussed and evaluated.

The program is progressive such that elements of early sessions set the stage for later discussions of more difficult topics. For example, there is an early focus on building a sense of safety and confidentiality and the process of becoming a group. Here the women discuss rules for their group, introduce themselves, and talk about their expectations and individuals’ goals for their participation. For those women still living with their abusive partner, the group therapists work to establish safety procedures around contact and therapy. For example, therapists ask the women to identify “safe” times (i.e., times when the abuser was not at home) to receive a telephone call. In addition, safety and confidentiality policies are reviewed in each group in accordance with state statutes (e.g., mandated reporting guidelines) and community center
policies (e.g., men cannot enter the premises). In a later session, therapists work with the women to establish individualized safety plans for themselves and their children that would help protect them from future victimization.

Once a sense of trust has been established, women discuss their fears and worries following IPV and its effects on their children. Along the way women describe the violence they have experienced and their associated feelings—often guilt about the effects of IPV on their child or anger at not having left an abusive relationship sooner. Subsequent sessions focus on family of origin issues and the carry-over of the effects of deleterious childhood experiences into present relationships. A session on communicating with the child about the violence often brings up parents’ fears and worries about their children, as well as feelings of inadequacy as a parent. Discussions about disciplining children often harken back to family or origin issues. Plans are made for the women to attempt a new way of communicating, disciplining, or relating to their child.

The program is not prescriptive in that the women are not required to discuss their experiences, nor are they required to create a trauma narrative. However, by the end of the group, every woman has voluntarily shared and disclosed her traumatic experiences and virtually everyone has grappled with the role of family or origin in their lives today. The group element of the intervention program seeks to normalize women’s experiences by providing a platform for the discussion of traumatic events with similar women who share their experiences. In addition to relationships with other women in the group, women form a therapeutic relationship with the therapist who gives feedback, and provides support and educational materials.

The children’s program is designed to help children identify and process their feelings about the violence that they have witnessed. As a part of this, group therapists help identify and correct self-blaming attributions or distorted beliefs about violence. Finally, children are taught safety skills and coping strategies. Mothers are informed of the daily topic in the children’s session in hopes of promoting at-home discussion of topics covered.

AIMS AND HYPOTHESES

The overarching objective of the present study is to assess the efficacy of a group intervention in relieving traumatic stress symptoms for women exposed to IPV. Three conditions are compared: women who participate in the MEP (the mother plus child, M+C condition), women
who do not receive treatment but whose children participated in a pro-
gram for those exposed to IPV (CO), and a comparison group of wom-
en exposed to IPV who are randomly assigned to a wait list comparison
group (CG). There are two main hypotheses: (1) Women who received
the intervention (M+C condition) are posited to have greater improve-
ments in traumatic stress symptoms at the end of the program than
those who did not receive the intervention—the CO and CG conditions.
(2) Women in the M+C condition are hypothesized to have greater
long-term changes in traumatic stress symptoms at 8-month follow-up
than women in the CO condition who did not participate in the MEP.

METHOD

Participants

The women’s mean age was 33.10 years ($SD = 5.29$ years). Ethnicity
was diverse, with 57% Caucasian, 35% African American or biracial,
and 8% from other groups. Monthly income was low but varied ($M =$
$1,366, $SD = $1,315). Most of the women completed high school (85%),
with 10% having a college degree and 5% education beyond college.
Relationship status ranged from 23% single, 30% separated, 17% di-
vorced, and 9% living with a partner. Only 19% were currently married
and 2% were in remarried families. More than half of the women were
working at least part time outside of the home (52%). The average num-
ber of hours worked each week was 16.89 ($SD = 18.76$). The women
reported a range of occupations and jobs including homemaker (31%),
white-collar worker (21%), unskilled laborer (10%), professional (8%),
technician (7%), student (4.5%), manager (4%), and other (2%). Eight
percent were unemployed and 4.5% held other jobs, for example, artist,
writer. Only 4% of the women were living in a shelter at the beginning
of the study.

Procedures

Following approval by the university IRB, study coordinators placed
advertisements for the program in local newspapers, at mental health
and legal agencies, and provided information on the program to lo-
cal domestic violence shelters. Flyers included a toll-free number for
the program, which mothers could call if they were interested in par-
ticipating. When women called, they completed a brief phone screen to
determine if they met criteria for inclusion in the study. Women who
experienced at least one incident of physical IPV during the past year and who had a child between the ages of 6 and 12 were invited to participate. Following a description of the study, if they were still interested, a baseline interview was immediately scheduled by the project coordinator.

The intervention programs were conducted in settings readily accessible to community families, such as existing mental health clinics, education centers, and shelter outreach programs. A sequential assignment procedure was used to assign children to the three conditions. That is, the first seven children were assigned to the CO condition, the next seven were assigned to the C+M condition, and the following seven children were assigned to the comparison group (CG) condition. This assignment procedure was employed throughout the study, with data collected on each family at baseline, post-intervention, and 8 months later. Women and children in the comparison group were given the opportunity to participate in the intervention following the completion of their first two interviews. Those who did elect to participate following the second interview were not interviewed at 8-month follow-up as they were no longer pure comparison families. At the baseline interview, all mothers completed informed consent for their own and their child’s participation in the project. Interviews were completed by undergraduate and graduate students in psychology and social work who were trained in research ethics and in work with high-risk populations. At each interview, mothers received $20 for their participation. Results of the efficacy trial children’s intervention program are described elsewhere (Graham-Bermann, Lynch, Banyard, Devoe, & Halabu, 2007).

Of the 221 mother–child dyads that were eligible for participation, 218 were interviewed at baseline then assigned to three conditions: 62 were assigned to the CO condition, 61 to the M+C condition, and 58 to the CG condition. Due to expectations for high dropouts, investigators decided on an oversampling procedure to ensure that appropriate power was reached for the study. Therefore, a fourth group of participants was interviewed (n = 37), but ultimately not assigned to a condition. These families were not included by study coordinators, lost to follow-up contacts, or ultimately declined participation in the study for a wide range of reasons, including: unrepresentative high income (n = 2), moves out of state and housing instability (n = 15), lost child custody of participating child (n = 7), declined participation in a second interview (n = 14), and serious injury or illness (n = 2). Analyses comparing those who dropped out of the study and those who remained showed no significant differences on any demographic variable, level of IPV exposure, or child adjustment problems. These families were not in-
cluded in the final database, are not included in the analyses, and were not included in the aggregate dataset (see Figure 1).

Of the 121 families participating in one of the intervention conditions, only 7 (5.7%) were not interviewed a third time (2 declined to be interviewed and 5 were lost to follow-up). In all, 56 CO and 60 M+C participants completed both the intervention and both follow-up interviews. In addition to drop analyses, analyses were conducted to ensure that the systematic assignment to group produced a quasi-randomization of mother–child dyads. As expected, the groups did not significantly differ by ethnicity, income, maternal age or education, child age or gender, or by the amount of violence in the home.

Attendance ranged from 5 to 10 sessions ($M = 7.35, SD = 1.50$). The number of sessions did not differ significantly for those in the M+C and CO conditions ($t = .08, p = .94$), nor by mother age, or by outcome variables at baseline. Caucasian women averaged one more session than did minority women ($M = 7.69, SD = 1.38$, versus $M = 6.88, SD = 1.57$, $t(2, 117) = 2.99, p = .003$). There was an inverse relationship between the amount of violence witnessed and sessions attended ($r = -.27, p = .003$).

Measures

Demographics Questionnaire. Women reported basic information and various characteristics of themselves and their family including age, education, race or ethnicity, income, occupation, relationships status, housing status, custody or visitation status, and contact with the abusive partner.

Intimate Partner Violence. IPV was assessed with the Conflict Tactics Scale (CTS; Straus, 1979) and the Severity of Violence Against Women Scales (SVAWS; Marshall, 1992). In their national survey on family violence, Straus, Gelles, and Steinmetz (1980) first used the CTS to determine the incidence of violence in American families by asking about the ways in which conflict is resolved by family members. The 18 items reflect three methods of resolving conflicts: the use of rational discussion and argument; the use of verbal and nonverbal expressions of hostility; and the use of physical force and violence. Respondents are asked whether an event occurred during the past year and how often it occurred. The CTS has established validity and reliability and is the most commonly used measure of dyadic family violence (Straus, 1979; Jouriles, McDonald, Norwood, & Ezell, 2001). The CTS hostility and violence items were used in the present study ($\alpha = .77$). The SVAWS consists of 46 items designed to measure the amount of maltreatment and coercion experienced by both abused women and women who were
not abused (Marshall, 1992). An analysis of the responses of 707 female college students using the SVAWS obtained alpha coefficients ranging from .92 to .96 for severity scores on the dimensions assessing symbolic, mild, moderate, and serious violence and threats. In the present study the SVAWS total scale a was .88.

**Posttraumatic Stress.** The Posttraumatic Stress Scale for Domestic Violence (Saunders, 1991) is a valid and reliable 17-item self-report measure of symptoms of traumatic stress based on the DSM-III-R. Instructions ask participants to self-report how often any of the items occurred as a result of any of physical or verbal abuse by a partner. For the present study, the indicated time frame was within the past year. Response categories were never, 1–2 times, 3–11, 12–24, 25–36, 37–50, 51–100, and
over 100 times. Midpoints were used to calculate the Total Posttraumatic Stress Scale score. For the present study reliability was $\alpha = .93$.

**Social Desirability Response Bias.** While the validity of self-report may be reduced by social desirability response bias, researchers have found reports of victimization generally to be unbiased (Arias & Beach, 1987). Social desirability response bias was measured with a reliable and valid ten-item version of the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1964; Greenwald & Satow, 1970; Saunders, 1991), which is designed to measure the extent to which one intentionally minimizes unflattering personal information. The measure relies on a 7-point Likert scale format (Greenwald & Satow, 1970). In the present study, reliability was .70.

**Statistical Procedures**

The significance of differences in traumatic stress scores from baseline to post-intervention were analyzed with t-tests and analysis of covariance was used to assess change over time to follow-up, taking baseline scores into account. These analyses distinguish both short-term and longer-term effects of the women’s program on the outcome of traumatic stress symptoms.

**RESULTS**

**Violence Severity**

The women experienced a variety of domestic violence tactics within the year prior to their entering the study as seen in Table 1. Clearly, the emotional and psychological abuse of the woman was a pervasive part of the environment of these families as control tactics and physical threats were common. The mean number of sexual violence tactics shows that this was a regular (biweekly) aspect of the violence in their lives. While physical violence was less frequent than psychological maltreatment, episodes of severe violence averaged a little less than once per month for the women in this study. Once again, the range is wide suggesting great variability in these experiences. Social desirability bias was not significantly associated with the frequency of physical violence or emotional violence tactics.

Most of the women (83%) were not currently living with an abusive partner with an average of 12 months since the violent partner lived in
the home. Yet they reported that the average length of their abusive relationship was 10 years ($M = 125.13$ months, $SD = 71.73$). Fully 68% of the women still had regular contact with their violent partner. This contact occurred on average every other day and was primarily related to child custody and visitation ($M_{contact} = 158$ days/year, $SD = 141.93$). Many (42%) of the women had had a previous violent relationship with an intimate partner. During the course of the study two women moved to a safe shelter.

### Traumatic Stress Symptoms

At baseline, mean traumatic stress scores did not differ significantly for those who did ($M = 66.10, SD = 33.86$) and did not ($M = 71.45, SD = 33.59$) receive treatment. Social desirability was negatively and significantly associated with Traumatic Stress Total scores ($r = -.170, p = .024$), indicating the more social desirability bias the less reported trauma symptoms. At baseline 93% of women had at least one re-experiencing symptom; 81% had three or more Avoidance symptoms and 91% had two or more physiological arousal symptoms. Most (81%) were diagnosed with PTSD at the start of the study. The proportion of women diagnosed with PTSD did not differ significantly by assigned conditions. There were 86% of women in the CG condition diagnosed with PTSD; 72% in the M+C and 82% in the CO condition.

### Changes in Symptoms of Traumatic Stress

There was significant reduction in traumatic stress symptoms for women in all three conditions between baseline and the end of the in-

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Tactics</td>
<td>95.46</td>
<td>79.01</td>
<td>1.00</td>
<td>320.88</td>
</tr>
<tr>
<td>Physical Threats</td>
<td>45.72</td>
<td>48.13</td>
<td>1.00</td>
<td>221.09</td>
</tr>
<tr>
<td>Sexual Violence</td>
<td>37.38</td>
<td>59.72</td>
<td>.00</td>
<td>273.75</td>
</tr>
<tr>
<td>Physical Violence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild</td>
<td>18.89</td>
<td>30.86</td>
<td>1.00</td>
<td>202.27</td>
</tr>
<tr>
<td>Severe</td>
<td>11.13</td>
<td>19.08</td>
<td>1.00</td>
<td>94.06</td>
</tr>
</tbody>
</table>

Table 1. Mean Number, Range and Frequency of Intimate Partner Violence Tactics Per Year Experienced by the Women in the Past Year
tervention or 10 weeks later for the CO group (see Table 2). Using Co-
hen’s $d$ (1988) effect size categorization, there was a medium effect for
the change in the M+C condition (Effect Size $d = 0.46$), the CO condi-
tion (ES $d = .42$), and a smaller effect for the CG condition (ES $d = 0.32$).
These findings provide partial support for the first hypothesis. Greater
changes were found from baseline to follow-up, with effect sizes of ($d$)
.56 for those in the M+C condition, supporting the second hypothesis.
Effect size diminished over time (ES $d = .38$) for those in the CO condi-
tion.

**Reliable Change Index**

The percentage of those with PTSD was lower for all three groups
over time. However change in diagnostic status from baseline to imme-
diately after the 10 weeks was greater for women who received treat-
ment than for those in the CG condition (Chi Square = 6.980, $p = .008$).
At follow-up 29% of CO women and 15% of M+C women retained a
PTSD diagnosis indicating greater change from clinical to nonclinical
range for those who received the intervention (Chi Square = 5.642, $p =
.018$).

**DISCUSSION**

In the current study, a large percentage of women (81%) were expe-
riencing clinically significant levels of traumatic stress following their
exposure to intimate partner violence. This diagnostic rate falls near the
high end of the expected range given a previous meta-analysis on PTSD
rates in IPV survivors (Golding, 1999), and reinforces the continued
need for intervention with these at-risk women. It is notable that this
high rate of diagnosis was present despite the fact that there seemed to
be some evidence that some women may have reported fewer symp-
toms to achieve greater social desirability, indicating that if anything,
the mental health needs of these women were underestimated.

It is hopeful, however, that PTSD symptoms decreased regardless of
the condition to which women were assigned. This may be evidence
that despite their experience of significant mental health symptoms,
many women may retain important coping mechanisms that allow
them to heal following exposure to severe violence. Despite this general
positive trend, it appears that women who participated in the Moms’
Empowerment Program (MEP) did experience a larger decrease in their posttraumatic stress symptoms than did women in the other conditions. The effect of the intervention was moderate to large (Cohen’s $d = 0.58$), and was maintained through the 8-month follow-up. This finding both supports the hypotheses of the current study and provides preliminary support for the MEP as efficacious in treating traumatized women in groups following exposure to IPV.

There is preliminary evidence that the MEP was successful in reducing trauma symptoms and creating reliable change, as 85% of the women moved from the clinical to the nonclinical range on PTSD. While no direct comparisons between the MEP and other kinds of therapy were made, this rate of improvement is higher than that of most other therapies (63–72%) reported in Bradley et al.’s meta-analysis (2005), including EMDR, CBT, and Exposure therapy (Bradley, Greene, Russ,
Dutra, & Westen, 2005). Yet the women averaged but seven sessions, with those exposed to more violence attending less. In order to better provide for their needs, factors that impede participation and how that may be related to violence exposure should be further explored. Still, given the range of problems that have been identified for these women and how little researchers know about the effectiveness of interventions specifically designed to assist them, the present study contributes to the potential range of services by showing preliminary evidence that a brief, group-designed intervention provides affordable and effective services to traumatized women exposed to IPV.

Limitations. Although the current study had many strengths in the organization and implementation of an evidence-based treatment, a number of limitations must be noted. First, women were the sole reporters of their PTSD symptoms. Clinician-evaluated PTSD or evidence of a PTSD diagnosis in psychiatric records would have provided stronger evidence. It is undoubtedly important to gather such information, and a multi-reporter design would have been ideal, especially since there is some evidence that PTSD symptoms may be exaggerated, particularly by those who have comorbid psychological disorders (Smith & Frueh, 1996). Still, results of the social desirability bias analysis would suggest the opposite trend occurred in the present study.

The current study also made use of measures (e.g., CTS) that have since been updated. While these measures were accepted for use at the time of data collection, it may be difficult to directly compare the results of the current study to others. Further, women reported on their partner’s violence tactics but not on their own violence in the relationship, as IPV is often bidirectional. This, however, does not affect the significance of the intra-study findings regarding decreases of traumatic stress symptoms in women following their participation in the MEP.

Finally, women in this study were drawn from one geographic area and many were referred to our program by domestic violence shelters. There were few Latina women in the study, as participants were primarily from two racial/ethnic groups. The women also were mothers. It may be, therefore, that these women represent a unique group in terms of the severity of their violence exposure. It is also important to remember that women elected participation in the current study. As such, it may be that the women who chose to participate are already more likely than their peers exposed to IPV to seek help, potentially explaining why even women not receiving treatment experienced improvements in mental health. It is possible that women who are more
limited in their ability to initiate services do not experience such “natural” reductions in PTSD over time.

Future Directions. Given the high rates of comorbidity between PTSD, depression, and substance abuse following exposure to IPV, future studies would do well to assess their complex interactions when treating these diagnoses. It would be helpful to gain a more nuanced understanding of whether the MEP provides a benefit for a variety of women’s mental health symptoms or if it is specific in its effectiveness. Future studies may also wish to examine the effectiveness of specific treatment components (i.e., does some session content provide more benefit than other content) in order to gain a better understanding of mechanisms of change in treatment.

It is not clear whether group interventions such as the MEP provide benefits over and above those that are designed for treating individuals. Examination of treatment process to discern whether the group element contributed to healing from trauma would be valuable. Similarly, studies comparing group intervention with individual treatment could be undertaken. Given that group interventions cost less than individual treatment, this information could be important for agencies servicing women exposed to IPV. Further study of those who recovered spontaneously, for example, those who did not participate in the MEP but whose traumatic stress symptoms remitted over time, would be most helpful as it does not appear to be the case that all women need such intervention services.

The current study did not test a mother-only intervention model. Future studies may want to examine if this model of treatment is also beneficial for both women and children who have recently experienced IPV. It may be that enhancing maternal functioning alone provides significant benefits through a “trickle down” effect in the family. Finally, while the MEP is currently being evaluated with Swedish and Canadian families, future evaluations could be undertaken with other populations, such as Latina women or Native American women.

Clinical Implications. Many communities may provide services for women exposed to IPV, but whether or not these interventions are based on scientific research is of serious concern. The results of the current study provide strong support for the benefits of the use of the MEP as an evidence-based group intervention for women exposed to IPV. Most importantly, no iatrogenic effects of treatment were noted for women participating in any group—only the strength of improvement varied.
REFERENCES


Sandra Graham-Bermann, Ph.D.
Department of Psychology
University of Michigan
530 Church Street
Ann Arbor, MI 48109-1043
sandragb@umich.edu