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Psychological Outcomes for Participants in Groups for Survivors of Intimate Partner Violence

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Abstract:

Effects of domestic violence are diverse and damaging to one's life (Briere & Jordan, 2004), yet the research in this field is limited (Abel, 2000). The goal of this study was to examine the effect of two different therapeutic groups— a support group and a self-defense group—on self-esteem and depression in victims of domestic violence. This was an uncontrolled, non-randomized, retrospective study. A local outpatient non-profit child and family clinic collected data from 69 female participants from two groups that they ran for victims of domestic violence— a support group called "Mothers in Action" and a self-defense class called "Self Defense Stress Management." Data analysis was performed to determine if the level of participants' depression or self-esteem changed from before to after group participation. This study also examined whether the amount of change in participants' depression or self-esteem levels differed across a variety of situational and demographic factors. Data analysis was also performed to determine if participants' baseline levels of depression, self-esteem, or perceived safety differed significantly between participants who dropped out of the groups and those who stayed in the groups. Finally, the study examined whether participants' baseline levels of self-esteem, depression, perceived safety, or income differed significantly across various demographic variables of participants. Analysis showed that mean depression and self-esteem scores of participants improved significantly in both groups. Participants who dropped out of the support group had felt less safe at baseline than those who stayed in the group, and participants who dropped out of the self-defense group had more severe depression and lower self-esteem at baseline than those who completed the group. These findings have useful implications for those trying to address the negative effects of intimate partner violence (IPV), in the fields of both treatment and research. Results of this study confirm existing research claims that support groups have positive effects

on self-esteem and depression levels of IPV victims. It also brings some new information to light — this is the first study in the literature to look at the psychological effect of self-defense groups for victimized women. It is also the first study to consider baseline safety rating as a predictor of dropping out. These findings should be taken into account when designing future studies in the field of IPV or when trying to create an effective IPV therapy program.

Introduction

One in four women has experienced intimate partner violence in her lifetime (Tjaden & Thoennes, 2000). Effects of intimate partner violence are known to be both diverse and detrimental to one's health and wellbeing (Briere & Jordan, 2004, Lundy & Grossman, 2001, Thompson et al., 2006). However, for many reasons, intimate partner violence is an area that does not receive attention in psychological research proportional to its high prevalence (Abel, 2000). The purpose of this study was to address this dearth of research and examine outcomes for women participants in two therapeutic groups for victims of intimate partner violence that focused on different aspects of participants' mental health.

Intimate partner violence (IPV), also known as domestic violence, is defined as a pattern of abusive behaviors by one or both partners in an intimate relationship (Shipway, 2004). IPV can include physical violence, sexual abuse, threats of violence, emotional abuse, or control of resources or movement. Emotional abuse includes actions such as degrading or hurtful comments by a partner. Sexual abuse consists of forcing someone to take part in acts of a sexual nature against their will.

Current empirical evidence suggests that women who experience IPV have higher rates of depression, suicidality, and post-traumatic stress disorder (PTSD) than the general population (Lundy & Grossman, 2001). A major literature review by Briere and Jordan (2004) found that

sexual and physical assaults within and outside domestic relationships have been associated with increased anxiety, depression, cognitive disturbance such as hopelessness and low self-esteem, and PTSD. However, research on outcomes of therapeutic interventions with women who have been exposed to IPV is limited (Lundy & Grossman, 2001). The circumstances of IPV make its victims' outcomes difficult to evaluate because clients may come only sporadically due to safety and poverty issues (Lundy and Grossman 2001). In addition, many abused women are impossible to identify because they do not seek help. These women cite a number of reasons why they are not reaching out, including worry over stigmatization and a lack of diverse or culturally competent staff in many agencies (Goodman et al., 2009).

Therefore, few studies inform us about what sorts of victimization are best treated by specific therapies (Briere & Jordan, 2004). In 1993, Tutty et al. determined that support groups are the most commonly used mode of intervention for IPV survivors. Groups give domestic violence survivors the opportunity to talk about and receive validation for their experiences (Davis & Srinivasan, 1995). Abel (2000) performed a review of documented psychosocial interventions for abused women and found only nine studies that focused on efficacy. Interventions included shelter stays, support groups, psychoeducational groups, and brief counseling sessions (Abel 2000). Most demonstrated no efficacy, partially because of high dropout rates, weak research design, and small sample sizes. One of these studies was Holiman and Schilit's (1991). They conducted a psychoeducational support group for victims of IPV. Using the index of self-esteem as a tool, they found that "no significant changes occurred on the measure of self-esteem" (Holiman & Schilit, 1991, p. 351). However, this study was small (n=12) and had no control group. Cox and Stoltenberg (1991) did include a control group that received unstructured group counseling in their study of a 2-week psychoeducational group for

victims of IPV. Cox and Stoltenberg's study started with 50 participants, but only 21 completed the group. Among other tests, they administered a Rosenberg self-esteem scale before and after group participation. After examining their data, Cox and Stoltenberg found significant improvements in self-esteem in their two treatment groups, but not in their control group. Tutty, Bidgood, and Rothery (1993) examined 12 different support groups for women survivors of IPV. In total, 76 women at three different agencies participated in groups that ranged between 10 and 12 weeks long. The researchers found significant increase in participants' self-esteem using the Coopersmith Self-Esteem Inventory. Despite these encouraging findings, the studies mentioned above have many weaknesses. They are small (all but one included fewer than 25 participants) and not randomized. Additional well-designed studies are needed to examine the efficacy of group work on the mental health of victims of domestic violence.

Although research on treatment efficacy of survivors of IPV is limited, there is a substantial base of data on correlates of domestic violence. Income level is one of the most significant negative correlates of IPV: the lower the household income, the more likely there is to be violence in the household (Goodman et al., 2009). Other variables associated with more severe or frequent occurrences of IPV include female gender, previous psychological dysfunction, and family dysfunction (Briere & Jordan, 2004). Relatively lower education level is also associated with the presence of domestic violence: High school education or less is associated with a 1.3 to 1.6 relative risk for non-physical or physical abuse, versus at least some college education. Another major correlate to adult abuse is child abuse; specifically, there is a 1.55 to 3.02 relative risk for IPV in women who experienced any form of abuse themselves or witnessed IPV in childhood (Thompson et al., 2001). Finally, when one type of abuse is present, it is much more likely that other types will be present as well (Briere & Jordan, 2004). In a study

of physically abused women, only 20.3% experienced physical abuse alone. The other 79.7% of women in the study also experienced other types of abuse—60.9% experienced two to three types of IPV, and 18.8% experience four or five types. Interestingly, race and ethnicity are generally not associated with IPV risk (Thompson et al., 2006).

The current study was performed in an attempt to address the lack of research on therapeutic interventions for survivors of domestic violence. Existing studies on effectiveness of psychoeducational groups for IPV victims are more than ten years old. Since standard practice changes over time, it is important to re-examine the use of therapeutic groups for victims of IPV, as the current study does. In their review, Lundy and Grossman (2001) make the point that women of color, especially immigrant women, have been consistently overlooked in past treatment studies. This study included women of color and immigrants. In their review, Goodman et al. (2009, p. 306) call for collaboration between researchers and domestic violence advocates and mental health and social services providers. This study is the result of such a collaboration.

This study was an uncontrolled, non-randomized retrospective study – a look backward at outcomes and data gathered over a six-year period. The goal of the current study was to examine the effect of two different therapeutic groups— a support group and a self-defense group—on self-esteem and depression in victims of domestic violence and to determine whether the groups differed in their effect on these variables. It was predicted that women's self-esteem would improve and that depression symptoms would decrease after participating in both types of groups. Additionally, it was predicted that depression scores would decrease more for women who participated in the support group ("Mothers in Action") than for those who participated in the self-defense group ("Self-Defense Stress Management"), and self-esteem scores would

increase more for those who participated in the self-defense group than for those who participated in the support group. The reasoning behind these hypotheses was that the camaraderie of a support group might be more likely to promote a decrease in factors that may be contributing to one's depression, such as feelings of loneliness and isolation. On the other hand, learning how to defend oneself seems more likely to increase confidence and boost self-esteem. Based on previous findings in the literature (Goodman et al., 2009), it was predicted that income level would negatively correlate with depression symptoms, e.g. the lower the participant's income, the more severe their depression. Also, given the results of previous studies (Abel, 2000), a fairly high dropout rate was expected and it was predicted that baseline depression would be greater among those who dropped out than those who did not.

Methods

Subjects

A local outpatient non-profit child and family clinic collected data from 69 female subjects, over a six-year period between 2003 and 2009. Of these women, 47 participated in a support group for women exposed to intimate partner violence called "Mothers in Action" (MIA) and 22 women participated in a self-defense class called "Self Defense Stress Management" (SDSM). It is worth noting that 19 of these women participated in groups more than once over the period of time during which these data were collected. There were a total of 88 individual data sets because of the women who repeated groups. However, in all analyses except one (in which data from women who repeated groups were compared to data from those who did not), only data from subjects' *first time* participating in a group was used.

Treatment Groups

The center where the treatment groups took place is a leading provider of family mental

health and social services in Cambridge and Somerville, Massachusetts. The center offers a wide range of services focused on prevention, intervention, and family support. Domestic violence is one of their areas of focus. The center receives client referrals from a range of sources, including schools, hospitals, word-of-mouth, and the Department of Children and Families. Their "Mothers-in Action" group meets once weekly for twelve weeks, with a curriculum that focuses on stress management, effects of domestic violence on children, positive discipline, self-esteem, and the cycle of violence. Their "Self-Defense Stress-management" group meets once weekly for ten weeks, focusing on recognizing uncomfortable situations, responding appropriately when challenged, self-defense skills, relaxation techniques, and stress management skills. It is led jointly by center staff and police offers. Both the groups are led according to a set curriculum created by the center that requires certain topics to be covered in each weekly session. Which group to join is a shared decision made by the client and her care provider at the center. Both groups are free of charge.

Measures

All participants filled out a self-report demographic questionnaire upon group entry. They were asked about their level of education, ethnicity, perceived level of safety, and income. Subjects rated their education level, income level, and safety level on a scale: for example, for income, a "1" meant an income of $0 to $10,000 a year, and a "5" meant an income of $60,000+ a year. Subjects were also asked about the specific types of abuse that they experienced during childhood and adulthood, including physical, sexual, verbal, psychological, threats of violence, and control of resources and/or movement. Participants also completed a Beck Depression Inventory (BDI-II) (Beck, Steer, & Brown, 1996) and Rosenberg self-esteem scale (Rosenberg, 1965) both before and after participation in their group. The BDI-II is s a 21-question multiple-

choice self-report inventory used to measure severity of depression. Each answer is scored with a value of 0, 1, 2, or 3. Scores ranging from 0 to 13 equate with minimal depression; 14–19: mild depression; 20–28: moderate depression; and 29–63: severe depression. Essentially, the higher the score, the more severe depressive symptoms a person has. The Rosenberg self-esteem scale asks subjects to rate the way they feel about ten self-statements on a 3-point scale, from "strongly agree" to "strongly disagree". The scale ranges from 0-30, with 30 indicating the highest score possible. The higher one's score, the higher her self-esteem. The BDI-II and Rosenberg scale are widely accepted tools for measuring depression and self-esteem. Descriptives of all the scale variables (name, n, range, mean, standard deviations) and frequencies of all the nominal variables can be found in the appendix at the end of this report. (Note: not all the variables have an *n* of 69 because participant records were not always complete. For example, some participants had their pre-Rosenberg questionnaire filled out, but not their pre-BDI questionnaire—so the *n* for pre-Rosenberg is greater than the *n* for pre-BDI.

The two main dependent variables assessed in this study were BDI and Rosenberg self-esteem scores before and after participation in the MIA and/or SDSM groups. In testing, these variables were called "PreBDI," "PreRosenberg," "PostBDI," and "PostRosenberg." The amounts that individuals' BDI and Rosenberg scores changed from before to after group participation were called "BDIchange" and "Rosenbergchange." These were all scale variables. Two other dependent variables that this study examined were the level of safety that subjects felt upon group entry and their annual income level ("safety", "income"). These were both ordinal variables. For example, for "safety," "1" meant that the subject felt "not safe at all", while "5" meant that the subject felt "very safe all of the time." In some cases, these two ordinal variables were transformed to scale variables for testing purposes.

Nominal independent variables included the presence of childhood trauma ("CH trauma"), whether it was the participants' first time participating in group ("firsttime"), which group the participant belonged to ("group"), whether the participant dropped out of the group before the end ("Dropout?"), race ("race"), types of childhood trauma experienced, and types of adult abuse experienced (titles vary by type of abuse). Scalar independent variables measured included income level ("income"), education level ("education"), and safety level of participants ("safety"). (Note: safety and income were assessed as both dependent and independent variables, to see if they affected participants' test scores or if they were affected by other variables). For a more complete understanding of the variables, a codebook is included in the appendix.

Using the statistical software program SPSS, data analysis was performed to determine if the amount that participants' BDI and Rosenberg scores changed from before to after group participation differed significantly depending on group choice, whether it was their first time in the group, or whether they had experienced childhood trauma. Data analysis was also performed to determine if participants' baseline depression or self-esteem scores, income level, or safety ratings differed among the following categories: the existence of childhood trauma, various types of childhood trauma (physical, sexual, psychological, neglect, witness to violence), whether it was participants' first time in the group, which group they were in, and whether they dropped out before group completion. Initial Rosenberg and BDI scores were also analyzed to determine whether scores differed significantly by participants' baseline safety rating and income level. For all testing, a p value of .05 was used as a significance threshold. Non-parametric tests were also used when possible, because not all data were normally distributed.

Procedure

All data were collected and collated from the local clinic's client files between the years

of 2003 to 2009. Client files generally contained a demographic questionnaire that included a safety rating scale, a Rosenberg self-esteem questionnaire, and a BDI-II questionnaire from before the participants started the groups. If participants finished group there was another Rosenberg self-esteem questionnaire and BDI–II questionnaire. During data compilation, each participant was assigned a number in order to ensure confidentiality.

Results

Normality Tests

First, data from the dependent variables (Safety, Income, PreRosenberg, PostRosenberg, Rosenbergchange, PreBDI, PostBDI, and BDIchange) were examined to see if they were normally distributed. Statistical tests of normality showed that not all variables were normally distributed, which determined what statistical tests were used in the data analyses that followed. It was expected that some of the variables would not be normally distributed. For example, income and safety both correlate with the existence of IPV, and all participants in this study were victims of IPV— therefore, it was expected that the income and safety levels of this population would be skewed. The Shapiro-Wilk test of normality showed that Safety (p=.000), Income (p=.000), and PostBDI scores (p=.014) did not have normal distributions. The Kolmogorov-Smirnov test of normality found that Safety (p=.000), Income(p=.000), and Rosenbergchange (p=.028) scores were not normally distributed. Test results are shown below in Table 1.

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PreRosenberg	.129	27	.200*	.947	27	.178
PostRosenberg	.113	27	.200*	.942	27	.136
Rosenbergchange	.178	27	.028	.950	27	.218
PreBDI	.134	27	.200*	.936	27	.098
PostBDI	.134	27	.200*	.900	27	.014
BDIchange	.136	27	.200*	.936	27	.097
Income	.241	27	.000	.829	27	.000
Safety	.316	27	.000	.759	27	.000

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Table 1: Normality Test Results of Dependent Variables

Therefore, non-parametric statistical tests (where the normality assumption does not have to be met) and parametric statistical tests (where the distribution does have to be normal) were both used in data analysis to try and get the most complete picture of the data.

Descriptives

Descriptive tests were performed to illustrate various demographics of the study population. Study subjects were mostly white (39.1%) and Hispanic (21.7%). A more detailed depiction of the race and ethnicity distribution can be seen in Figure 1. There was no significant difference in race and ethnicity distribution between groups.

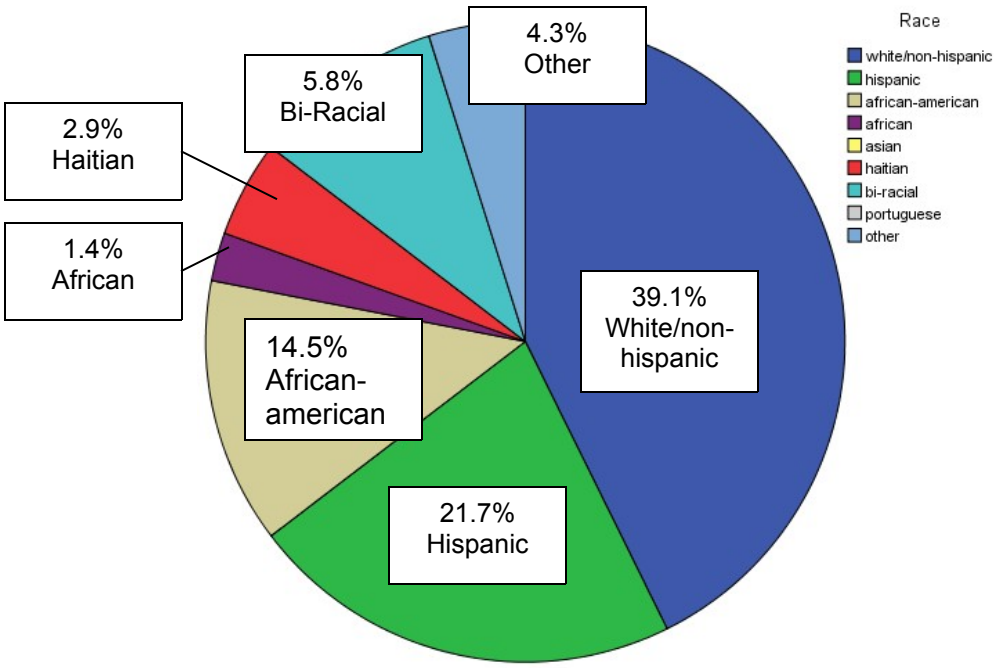

Figure 1: Race and Ethnicity Distribution of Study Population

It is known that childhood abuse increases one's risk for abuse in adulthood. In this study population, 65.2% had been exposed to childhood trauma. Two-thirds of the participants who had been exposed to childhood trauma experienced more than one type of trauma (66.7%). More specifically, 39.1% of the population had experienced psychological abuse as children, 37.7% had been exposed to physical abuse as children, 29% were child witnesses to violence, 26.1% experienced sexual abuse as children, and 17.4% experienced childhood neglect. There was no significant difference in exposure to childhood trauma between participants in the two therapeutic groups.

Regarding IPV in adulthood, 79.7% of subjects experienced emotional abuse, 73.9% experienced threats of violence, 69.6% experienced physical abuse, 60.9% experienced control of their resources or movement, and 29% experienced sexual abuse. Only three women reported only experiencing one type of abuse (4.8%). There was no significant difference in exposure to adult trauma between participants in the two therapeutic groups.

Of the full sample, including those participating in group for a second time, 78.4% of subjects were first-time group participants at the clinic. Of these first-timers, 68.1% participated in the MIA group and 31.9% participated in the SDSM group. When including women's second time participating in a group in the sample, 55.1% were in the MIA group, 28.1% were in the SDSM group, and 16.9% were in both groups.

Regarding household income, 36.2% of the population earned between $0 and $10,000 annually, 34.5% earned between $10,000 and $25,000, 15.5% earned between $24,000 and $40,000, 8.6% earned between $40,000 and $60,000, and 5.2% earned more than $60,000 (See Figure 2). There was no significant difference in income level between the two treatment groups.

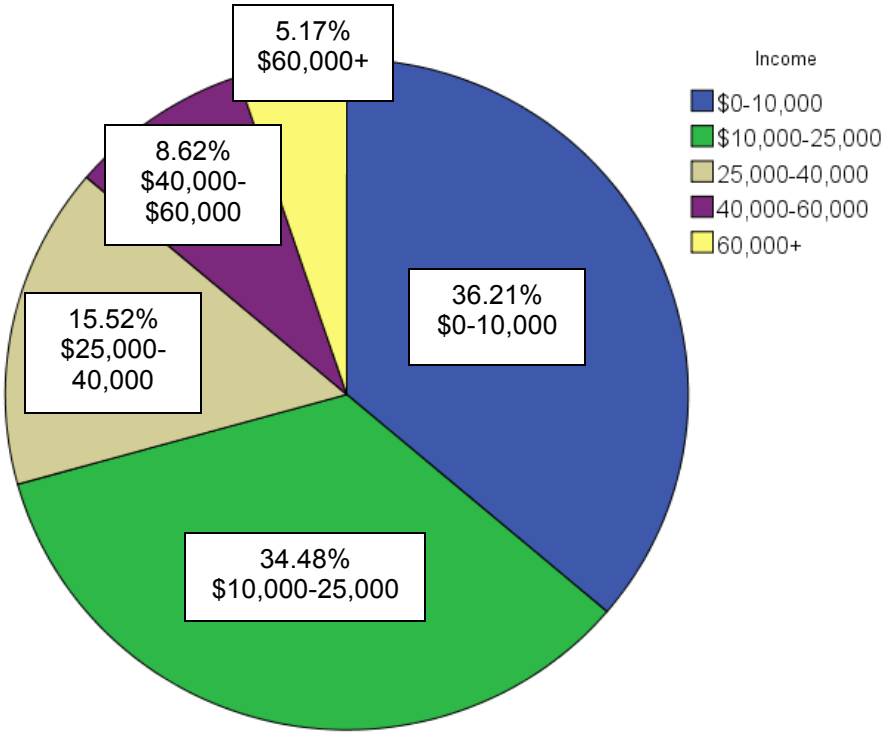

Figure 2: Income Distribution of Study Population

In terms of safety, 1.3% of the women reported that they did not feel safe at all ("1"), 5.1% felt not safe most of the time ("2"), 11.5% felt not safe some of the time ("3"), 60.3% felt mostly safe ("4"), and 21.8% felt very safe all of the time ("5") (Figure 3). There was no significant difference in rated safety level between the two treatment groups. Also, these ratings do not seem directly related to the women's living situations. Six women (8.69%) reported that they were still living with their abusive partner when they began group. However, four of these women rated their safety level as a "4", one rated her level as a "5", and one rated her level as a "2." Some of these women may have been undergoing the process of leaving during the time that the group was being run.

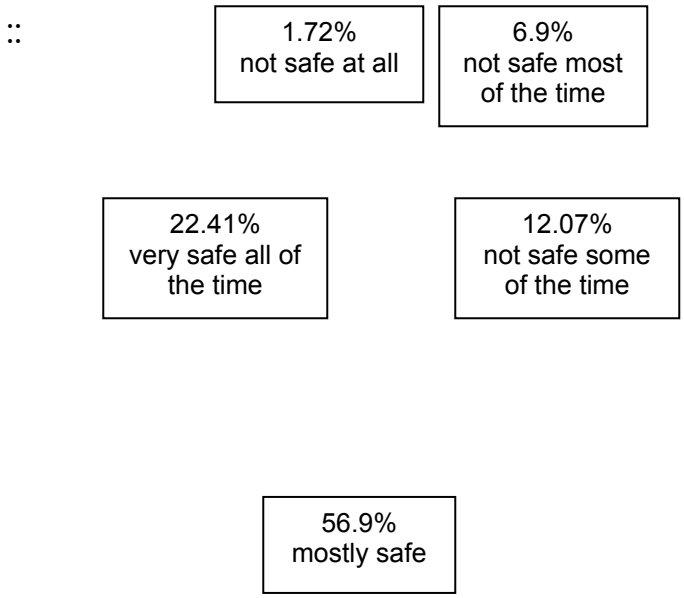

Figure 3: Distribution of Safety Ratings of Study Population

The most common education level of this population was high school— 38.6% of the

women reported that they had completed high school or had their GED, while 6.8% of them had less than a high school education, 11.4% had their associates degree, 27.3% had their college degree, and 15.4% had continued their education past college (Figure 4).

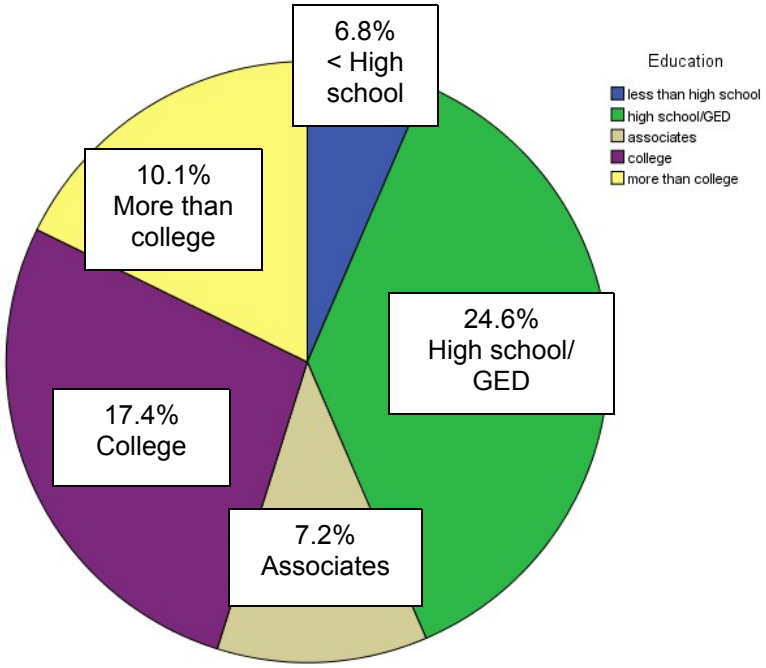

Figure 4: Education Distribution of Study Population

Many subjects did not complete the groups. A total of 33 participants dropped out of a group, while 36 participants completed. The dropout rate was 48.9% for the MIA group and 45.5% for the SDSM group. A completer's analysis was used to look at group effectiveness. Therefore, only data from the 36 participants who completed groups were used when looking at end results. Because almost half the participants dropped out, intent-to-treat analysis yielded no significant results.

Examination of Significant Changes in Test Scores from Before to After Group Participation

Changes in BDI and Rosenberg test scores in the two therapeutic groups.

Paired means tests were performed to see if mean Rosenberg and BDI scores changed significantly from before to after participation in the MIA and SDSM groups, and whether effectiveness differed by which therapeutic group the women experienced. For this set of analyses, a mixed ANOVA design was employed. The first factor was the within-subjects factor of occasion of test score, with two levels, pre and post. The second factor was the between-subjects factor of therapeutic group, also with two levels, "MIA" or "SDSM". Two separate 2x2 mixed model ANOVAs found significant changes in BDI and Rosenberg pre and post scores in the group of participants as a whole (within-subject effects) (BDI: $F(1,27)=18.722$, $p=.005$, Rosenberg: $F(1,32)=16.152$, $p=.000$). However, there was no significant difference in improvement in BDI or Rosenberg scores between the SDSM and MIA group (interaction between group and time)(BDI: $F(1,27)=2.786$, $p=.107$, Rosenberg: $F(1,32,)=1.979$, $p=.168$). A *Wilcoxon paired means test* was used for non-parametric testing. With this test, it was not possible to see if there were between group differences as it was with the ANOVA; however, a Wilcoxon test run on the group of participants as a whole showed that there were significant changes in mean pre to post BDI scores ($W(29)= 20.5$, $p=.000$) and mean pre to post Rosenberg scores ($W(34)=329.5$, $p=.001$). When the data was split up by which group participants participated in, the Wilcoxon still found all significant results for BDI (MIA: $W(18)= 8$, $p=.001$, SDSM: $W(9)=5$, $p=.037$) and Rosenberg scores (MIA: $W(21)= 123.5$, $p=.024$, SDSM: $W(11)=53.5$, $p=.008$). In summary, **the group of study subjects had significant mean improvements in both their Rosenberg and BDI scores from before to after group participation, collapsing across group** (illustrated in Figure 5).

Mean Rosenberg and BDI scores from Before and After Group Participation

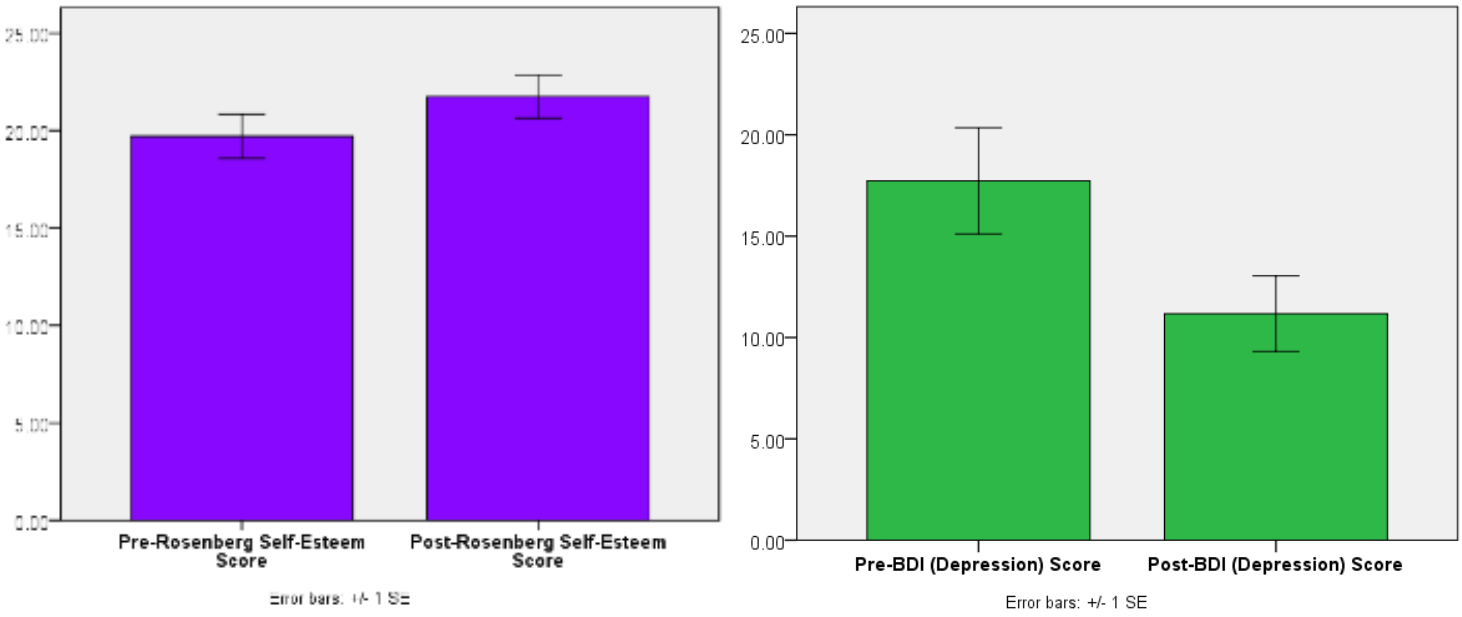

Figure 5: Mean Rosenberg and BDI scores from Before and After Group Participation

In addition, **participants in each group had a significant decrease in depression symptoms and a significant increase in self-esteem after group participation, but there was no significant difference in amount of improvement in BDI or Rosenberg scores between the MIA and SDSM group** (illustrated in Figure 6).

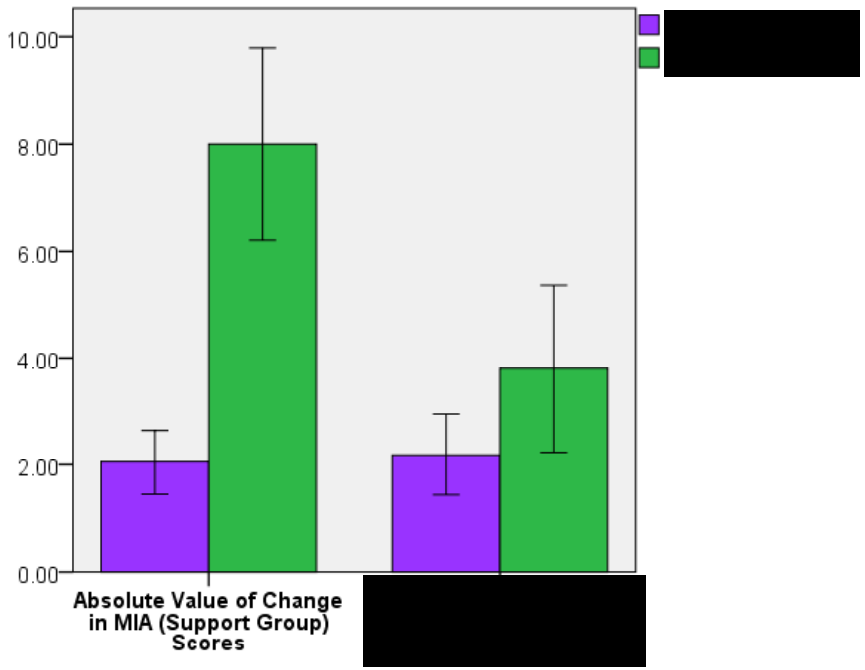

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Figure 6: Mean Changes in pre and post BDI and Rosenberg scores by Treatment Group

Note: Figure shows *absolute* value of change. In reality, BDI scores decreased over time and Rosenberg scores increased.

Table 2 displays the mean BDI and Rosenberg scores for each group from before and after group participation.

Report

group		PreRosenberg	PostRosenberg	PreBDI	PostBDI
MIA	Mean	18.8636	20.4167	20.7500	13.1304
	N	22	24	20	23
	Std. Deviation	7.21305	7.09511	14.34857	10.95571
SDSM	Mean	21.2500	24.2500	13.0833	7.7000
	N	12	12	12	10
	Std. Deviation	5.29365	4.57513	11.12294	6.73383
Total	Mean	19.7059	21.6944	17.8750	11.4848
	N	34	36	32	33
	Std. Deviation	6.61738	6.55883	13.57595	10.08440

Table 2: Mean BDI and Rosenberg Scores for each Group from Before and After Group Participation

According to the BDI scale, women completers in the MIA group initially suffered from moderate depression, while completers in the SDSM group initially suffered from minimal to

mild depression. After group completion, women in the MIA group had an average depression score that equates with minimal to mild depression, while women in the SDSM group had a mean score that equates with minimal depression. Regarding self-esteem, women in both groups started off with a mean score on the higher end of the Rosenberg scale. After group completion, the mean Rosenberg score of participants in both groups only between 1 and 3 points, out of a 30-point scale. This suggests that these women may not have been able to feel the increase in their self-esteem levels, although there was still a significant change.

Changes in BDI and Rosenberg test scores for those who were participating in group for their first time and those who were not.

Scores were examined to determine whether impact of group participation on test scores differed by whether it was the women's first time participating in a group or not. Subjects who participated in the groups more than once (these data were not used in analyses described in the previous section) were compared to those participating for their first time in a 2x2x2 mixed ANOVA analysis. In this analysis, the first factor was the within-subjects factor of occasion of test score, with two levels, pre and post. The second factor was the between-subjects factor of therapeutic group, with two levels, "MIA" and "SDSM". The third factor was "first time" with two levels, '

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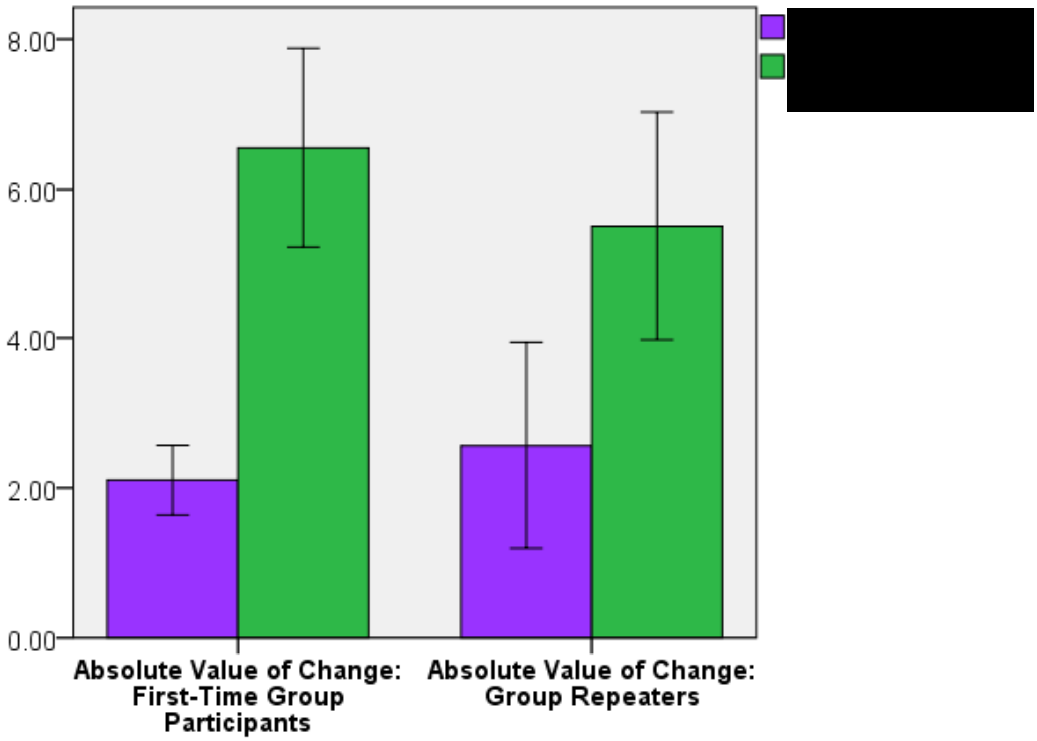

interaction of "first time" and group, (F(1, 36)=1.072)=.308). **These findings suggest that participating in a group a second or third time is just as effective as the first time, regardless of which group subjects choose (SDSM or MIA)** (illustrated in Figure 7).

Mean Changes in BDI and Rosenberg Test Scores in First Time and Non-First Time Group Participants

Figure 7: Mean Changes in BDI and Rosenberg Test Scores in First Time and Non-First Time Group Participants

Changes in BDI and Rosenberg test scores for those subjects who had experienced childhood trauma and those who had not.

A 2x2x2 mixed ANOVA design was employed to look at effectiveness of the groups on test scores when the women were divided by whether they had been exposed to trauma in childhood or not. In this analysis, the first factor was the within-subjects factor of occasion of test score, with two levels, pre and post. The second factor was the between-subjects factor of therapeutic group, with two levels, "MIA" and "SDSM". The third factor was "childhood

trauma?" with two levels, "yes" or "no". No significant difference was found between those who had been exposed to childhood trauma or not in amount of improvement in BDI (F, 1,27)=263, p=.612) or Rosenberg (F(1,27)=.363, p=.552) (interaction between "childhood trauma" and test). These differences were examined again when the participants were divided by which therapeutic group they participated in, and there was still no significant difference in improvement (interaction of test, "childhood trauma", and group) (BDI: F(1, 27)=.23, p=.636, Rosenberg: F(1, 27)=..055, p=.816). When combining subjects' overall change in BDI and Rosenberg scores, there was no main effect of group (F(1, 27)=.700, p=.380), exposure to childhood trauma (F(1,27)=.080, p=.780), or interaction between group and childhood trauma (F(1,27)=.024, p=.879). **These data indicate that participants' test scores improved after participation regardless of whether they were exposed to trauma in childhood, independent of which treatment group they experienced** (illustrated in Figure 8).

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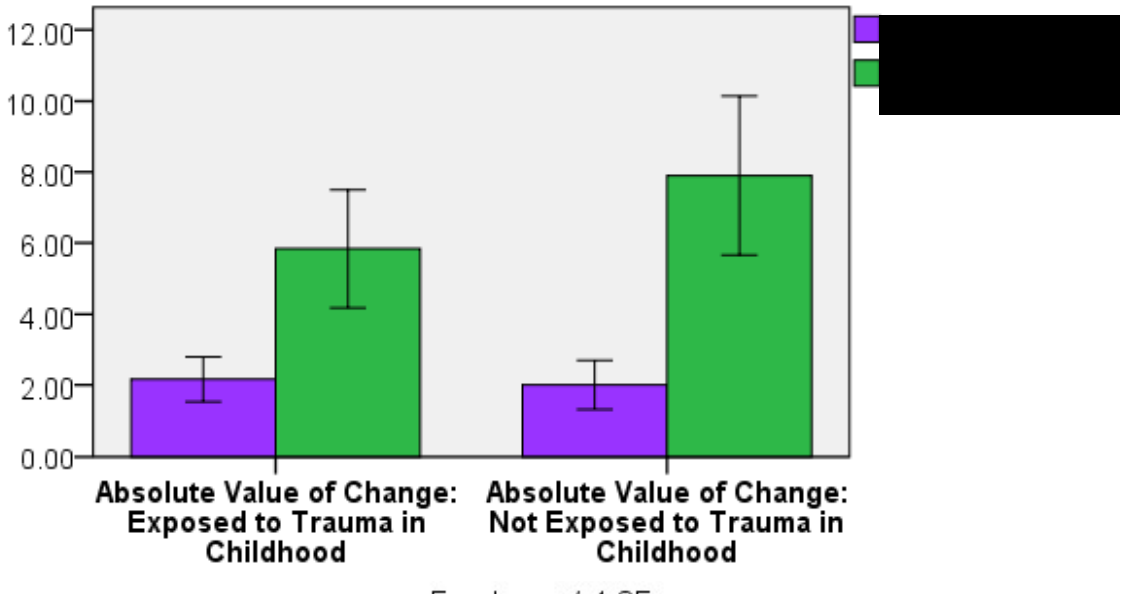


Figure 8: Changes in BDI and Rosenberg Scores Pre and Post Group Participation for those Exposed to Childhood Trauma and Not

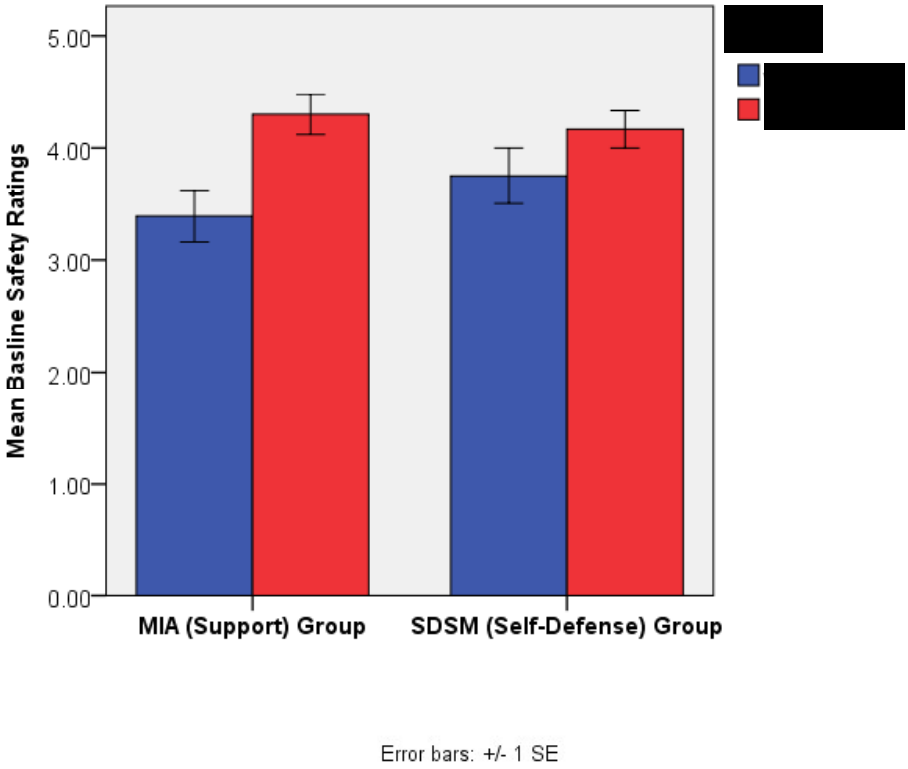
Examination of Differences in Income, Safety, and Baseline Test Scores across a Variety of Factors

These next analyses were performed to examine the degree to which participants' baseline depression or self-esteem scores, their income, or how safe they felt at the beginning of group differed among the following categories: the existence of childhood trauma, various types of childhood trauma (physical, sexual, psychological, neglect, witness to violence), whether it was participants' first time in the group, which group they were in, and whether or not they dropped out of the groups. In this set of analyses, the *t-test* was used for parametric testing and the *Mann-Whitney test* was used for non-parametric testing. Rosenberg and BDI scores were also analyzed to see if they differed significantly by participants' baseline safety rating or income levels. *One-way ANOVAs* were used for these analyses. Only *significant* results are described below. *Note*: safety and income were transformed into scale variables instead of ordinal variables to run these tests (values ranged from "1" to "5", "5" equating with the highest income or feeling the most secure).

Baseline Safety Ratings of Dropouts versus Non-Dropouts.

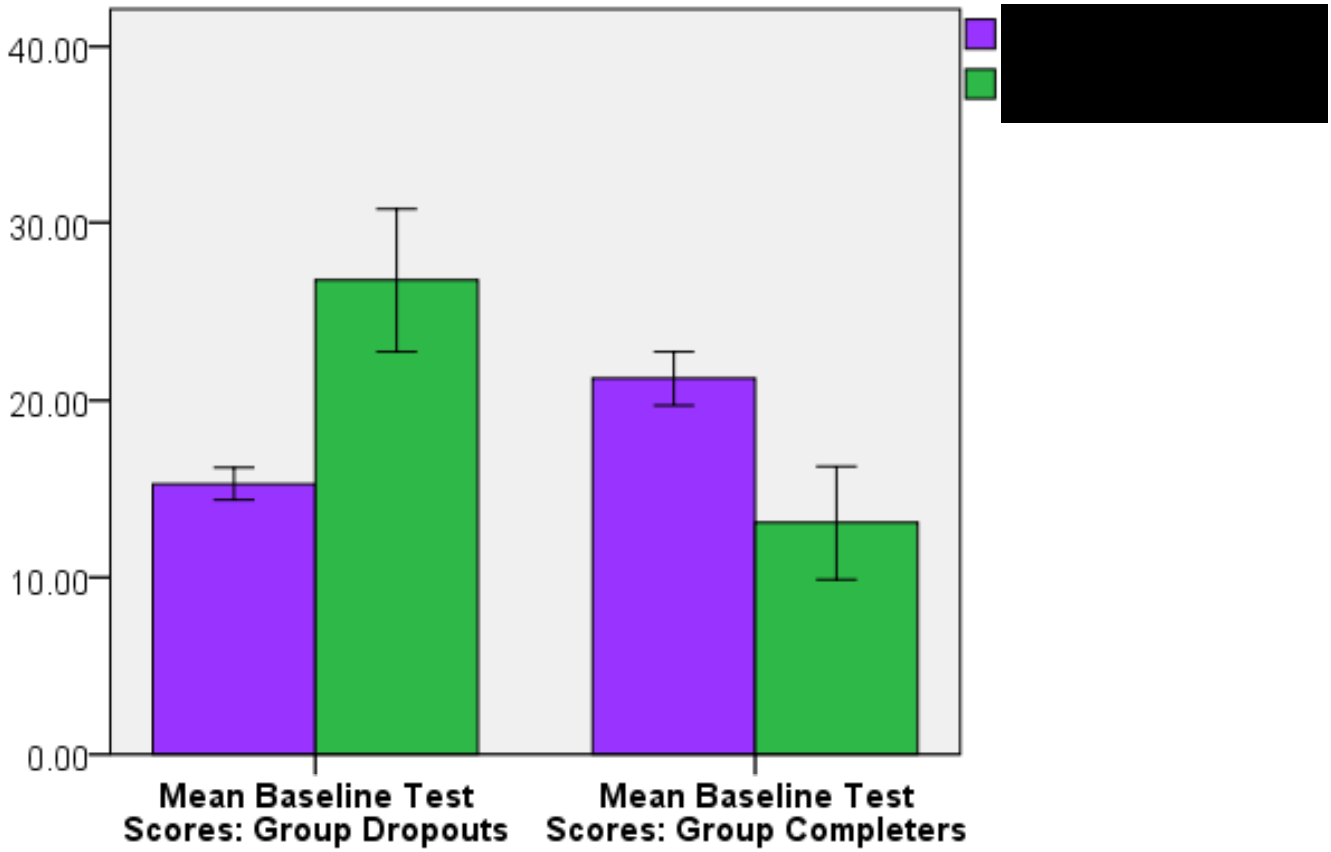
The effect of baseline feelings of safety on group completion was tested with both parametric (t-test) and non-parametric (Mann-Whitney) tests. For both tests, a significant difference in initial safety ratings was found between completers and dropouts in the MIA support group but not in the SDSM self-defense group participants (T-tests: MIA: t(36)=-3.153, p=.003, SDSM: t(18)=-1.447, p=.165) (Mann-Whitney: MIA: Mann-Whitney $U = 263.5$, n_1=19, n_2=19, p=.007, SDSM: Mann-Whitney $U = 66$, n_1=10, n_2=10, p=.168). Mean safety ratings for those who dropped out of the MIA and SDSM groups and those who stayed in are displayed in Figure 9 (MIA: Dropouts: $\bar{x}$=3.57, Non-Dropouts: $\bar{x}$=4.26, SDSM: Dropouts: $\bar{x}$=3.92, Non-Dropouts: $\bar{x}$=4.18). **These findings suggest that the people who dropped out of the support group felt significantly less safe upon entry than those who stayed in the group.**

Mean Safety Ratings of Participants Who Stayed in Groups vs. Dropouts



t(20)=2.70, p=.014). The Mann-Whitney test also found this result (PreRosenberg: Mann-Whitney U=111.5, n_1=12, n_2=10, p=.001, PreBDI: Mann-Whitney U=22.5, n_1=12, n_2=10, p=.011. **These test results suggest that those who dropped out of the SDSM group had significantly more severe depression and lower self-esteem than those who stayed in the group** (illustrated in Figure 10). Table 3 displays the mean baseline Rosenberg and BDI scores for those who dropped out of the SDSM group and those who completed the group.

Mean Test Scores of SDSM Dropouts vs. Non-Dropouts



Error bars: +/- 1 SE

dropout?		PreBDI	PreRosenberg
yes	Mean	26.8000	15.3000

Report[a]

	N	10	10
	Std. Deviation	12.68245	2.95522
no	Mean	13.0833	21.2500
	N	12	12
	Std. Deviation	11.12294	5.29365
Total	Mean	19.3182	18.5455
	N	22	22
	Std. Deviation	13.51326	5.25518

Table 3: Mean Pre BDI and Pre Rosenberg Scores for those who completed the SDSM group and those who dropped out.

There was no significant difference in PreRosenberg scores and PreBDI scores between those who dropped out of the MIA group and those who stayed in the MIA group (PreRosenberg: $t(42)=.13$, $p=.898$, PreBDI: $t(40)=-.064$, $p=.949$).

Income Level and Baseline Depression.

At the beginning of this study it was predicted that income level would negatively correlate with subjects' depression symptoms. A one-way ANOVA found that there was no significant difference in baseline depression scores between the women when divided by income bracket ($F(4, 50)=.662$, $p=.621$).

Summary of Results

The most important conclusion of this dataset is that mean BDI and Rosenberg scores improved significantly among women IPV survivors who participated in either support or self-defense groups. Depression symptoms decreased and self-esteem increased. Which kind of group survivors participated in did not make a significant difference to the degree of improvement: both self–defense and support groups had similar effects, as long as participants persisted to completion. Moreover, participating in group for a second or third time led to a similar amount

of improvement with each course of treatment. Participants who had been exposed to childhood trauma benefited as much as those who were not exposed to childhood trauma. Another important conclusion suggested by this analysis is that people who dropped out of the support group felt significantly less safe upon entry than those who stayed in the group, and those who dropped out of the self-defense group had more severe depression and lower self-esteem at entry than those who stayed on to complete the group.

Discussion

Comparison of Results to Hypotheses

At the beginning of this study, it was predicted that subjects' self-esteem would improve and that their depression symptoms would decrease after participating in either a self-defense group or support group for victims of domestic violence. This hypothesis was confirmed—self-esteem increased significantly and depression symptoms decreased significantly for group participants. However, it was also predicted that depression scores would decrease more for women who participated in the support group ("Mothers in Action") than those who participated in the self-defense group ("Self-Defense Stress Management"), and self-esteem scores would increase more for those who participated in the self-defense group than those who participated in the support group. Although observed changes in mean scores tended in a direction consistent with this hypothesis (see Figure 6), the differences between groups were not significant. These findings imply that therapeutic groups improve one's depression and self-esteem, but the type of group is not necessarily important. It may be that the factors that all therapeutic groups have in common, such as being with peers who share your experiences and feeling supported, are more important for improving self-esteem and depression than the actual group content. Studies with larger sample sizes would be more likely to find a significant between-group difference if one

exists. Therefore, future studies with larger sample sizes should examine if type of therapeutic group has a significant differential effect on improvement of self-esteem and depression.

Another prediction at the beginning of this study was that income level would negatively correlate with one's depression symptoms. This correlation was not found in this study. However, this may be because there was not a normal distribution of incomes in this study. This study was sharply skewed toward lower income levels, with the percentage of women in each income bracket increasing as income decreased.

Finally, our last prediction was that there would be a high dropout rate and that depression would be greater among those who dropped out than those who did not. There was a high dropout rate (47.8%), but baseline depression ratings were only significantly higher among those who dropped out of the self-defense group, not those who dropped out of the support group. Baseline self-esteem ratings of the women who dropped out of the self-defense group were also significantly lower than those who stayed in the group. Perhaps the content of the self-defense group (as opposed to the support group) makes it harder for women with low self-esteem or high depression to persist. For example, maybe the self-defense group requires more active participation than the support group, which could be challenging for someone who is severely depressed or has low self-esteem. Also, some of the scenarios in the self-defense group could be triggering experiences for women with PTSD, causing them to drop out. It is important that future studies look at this between-group difference and determine whether it exists in similar situations. If this is a common problem, it may be useful to incorporate some type of treatment for depression and low self-esteem into self-defense classes so that participants do not drop out as often. Another option to address this problem would be to screen participants beforehand for low levels of self-esteem and depression and, if they qualify, have them receive simultaneous

supportive treatment while doing the self-defense group. Perhaps all participants should be encouraged to do the MIA group prior to the self-defense group to help boost their self-esteem and decrease depression symptoms before participation in the SDSM group.

Additional Significant Findings

This study yielded other findings that have important implications for treatment of IPV. There was *no* significant difference in amount of improvement in self-esteem and depression scores between people participating in a group for their first time and those doing the group for a second or third time. Therefore women should not be dissuaded from repeating a group, because participants generally improve to the same extent when doing the groups for a second time as they did the first time.

Finally, this study found that people who dropped out of the support group had significantly lower baseline safety ratings than those who stayed in. It is important to address the safety, or lack thereof, that women feel in these groups to counteract attrition. The local clinic (and other similar organizations) could try to connect women who say they feel very unsafe with certain services to make them feel more secure—services such as police involvement, relocation, transportation, or assistance in obtaining restraining orders.

Comparison of Results to Previous Research.

This study brings new insight to the field of treatment for victims of IPV and also confirms some past findings. Just as Abel (2000) found in her research on psychosocial interventions for IPV victims, these groups had very high dropout rates (47.8%). This is clearly a pervasive problem in the field of IPV treatment, and researchers and treatment centers must try to address it, although sometimes group participants simply drop out because their situation changes. They may have found permanent housing somewhere else and the commute is too long.

They may have found a job that will not allow them to arrive to group on time. These could be considered positive changes in participants' lives. However, not all group dropouts can be attributed to these reasons. In their 1996 study, researchers Tutty, Bidgood, and Rothery tried to find predictors for dropouts. They looked at client age, violence history, and current living arrangements related to the batterer and found no significant predictors of who would not complete the program. The current study found that safety ratings were related to dropouts of the support group and self-esteem and depression scores were related to dropouts of the self-defense group. This is an important finding worth researching further because if the factors that contribute to dropout rates can be identified, then they can be addressed and hopefully dropout rates in IPV therapy groups can be reduced.

Like previous research (Cox & Stoltenberg, 1991, Tutty et al., 1993), the current study revealed a significant improvement in participants' self-esteem scores. A high incidence of child abuse in the current study population was found compared to the general population. The rate of child abuse in our population was 65.2%, while only 1.21% of children in the United States were substantiated as victims of child maltreatment in 2006 (U.S. Department of Health and Human Services, 2008). These findings are consistent with the findings of at least four past studies (Stermac et al., 2002, Tjaden & Thoennes, 2000, Whitfield et al., 2003, Thompson et al., 2006) that women assaulted as adults are statistically more likely to have histories of childhood abuse than woman who are not assaulted as adults (Briere & Jordan ,2004, p. 1256). Our study also found that most women experienced more than one type of abuse as an adult (95.2%), similar to the findings of Thompson et al. (2006) that 45.1% of abused women experienced more than one type of IPV within the past five years. Briere and Jordan (2004) also found that 60.9% of abused women experienced two to three types of IPV.

This study had a substantial number of limitations. It was a relatively small sample size with a high dropout rate. Thirty-three women stayed in the groups, while 36 dropped out. Compared to the nine similar studies of psychosocial interventions for abused women that Abel (2000) reviewed, this study had an average sample size. The sample sizes of the studies that Abel examined ranged from 6 to 155, with an average of 59.6. The current study also lacked a control group, which would have been useful to compare to the treatment groups to determine whether the improvements found were a result of the actual content of the group or due to expectancy effects or simply the passage of time. It also would have been useful to have a third group of participants who participated in both groups to compare outcomes with those who participated in just one group. Future studies should include a control group and a dual-participation group in addition to the two treatment groups examined in this study. This study's findings could be further validated if the subjects had been randomly assigned to treatment group or if variables were normally distributed. One possible confounding factor is that the data were collected from multiple groups run over a six-year period, since undoubtedly conditions were not exactly the same in each group led over the six years.

Although a randomized, controlled, prospective study is the ideal when conducting research, studies such as the current one can be important for identifying patterns and developing hypotheses that can inform further study. For example, this was the first study in IPV literature to examine self-defense groups, and it seems that they have a positive effect on participants. Researchers and experts in the field should be alerted to the fact that self-defense groups have the potential to create positive outcomes for victims of IPV. This was also the first study to examine baseline safety ratings as a predictor of dropping out, and lower levels of perceived safety at entry were found to be associated with treatment dropout. The level of safety that women

participants in IPV support groups feel should be addressed and further examined in future studies.

Treatment centers such as the Guidance Center focus on providing therapy and support to their clients, and often do not have the funding or the manpower to evaluate their treatments. However, it is important for treatment centers to look at effectiveness of their work, and collaboration between researchers and clinicians can yield fruitful insights. Perhaps federal or state grants to places such as the local clinic examined in this study should require an evaluation component in return for their support.

Summary of Implications and Suggestions for Future Research and Practice

Many suggestions for future research and practice in the field of IPV have been raised throughout this discussion. First, a study similar to this one (ideally prospective) could be repeated with a larger sample size to look for a significant difference in amount of improvement in self-esteem or depression scores in self-defense versus support groups. Adding in a PTSD self-evaluation, such as the Davidson trauma scale, for the women to complete before and after group participation would help to create a more comprehensive study. PTSD is a known outcome of IPV, and it could contribute to a woman's level of self-esteem and depression. Severity of PTSD could affect a women's perceived level of safety and/or whether she completes a group. Understanding these associations would be useful when trying to improve effectiveness of group treatment for IPV victims. Also, addition of more comparison groups—a control group and a group that receives both treatments--would strengthen study findings. The control group would be a discussion group where the women could talk about various issues of their choosing related to IPV. To encourage women to come to the group they could be told it was necessary to participate in the client-centered discussion group before the "real" group. Future studies should

also be on the alert for significant differences in baseline self-esteem and depression scores between women who drop out of self-defense groups and those who stay in. It would be useful to know if the current study's finding was unique to this group of study participants. Results of this study also suggest that feeling unsafe may contribute to why a woman drops out of a support group. In the future, studies should continue to examine this question, while treatment centers should implement systems to address and appease women's safety concerns. Finally, all treatment centers should work to build an evaluation component, as exemplified in this study, to allow them to confirm and enhance the effectiveness of their interventions.

This study both adds to the existing evidence of the positive effects of therapeutic groups for IPV victims and brings some new findings to the table. The author hopes that this study will alert researchers and treatment centers to the positive outcomes that self-defense groups can have for participants. She further hopes that this study will help both to inform the practice of future therapeutic groups for victims of IPV and to facilitate future research on effective treatment for these women— an area of research that is commonly overlooked.

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Appendix:

Code Book for SPSS

Variable Name	**Description**	**Coding Format**
Race	Race/Ethnicity	1-white/non-hispanic 2-hispanic 3-african-american 4-african 5-asian 6-haitian 7-bi-racial 8-portuguese 9-other
CHtrauma	Did they experience trauma in childhood?	1-yes 2-no
CHphysical	Did they experience physical trauma in childhood?	1-yes 2-no
CHsexual	Did they experience sexual trauma in childhood?	1-yes 2-no
CHpsychological	Did they experience psychological trauma in childhood?	1-yes 2-no
CHneglect	Did they experience neglect in childhood?	1-yes 2-no
CHwitness	Were they child witnesses to violence?	1-yes 2-no
CHother	Did they experience other trauma in childhood?	1-yes 2-no
AD physical	Did they experience physical abuse as an adult?	1-yes 2-no
ADsexual	Did they experience sexual abuse as an adult?	1-yes 2-no
ADthreats	Did they experience threats	1-yes

	of violence from a partner as an adult?	2-no
ADemotional	Did they experience emotional abuse from a partner as an adult?	1-yes 2-no
ADcontrol	Did they experience control of resources or movement by a partner as an adult?	1-yes 2-no
ADother	Did they experience other types of partner abuse as an adult?	1-yes 2-no
Income	Yearly income level	1-$0-10,000 2-$10000-25000 3-$25000-40000 4-$40000-60000 5-$60000+
Safety	Rating of current level of safety	1-not safe at all 2-not safe most of the time 3-not safe some of the time 4-mostly safe 5-very safe all the time
Education	Level of education	1-Less than high school 2-High school/GED 3-associates 4-college 5-more than college
PreRosenberg	Rosenberg self esteem scale score pre-treatment	score
PostRosenberg	Rosenberg self-esteem scale score post-treatment	score
PreBDI	BDI score pre-treatment	score
Post BDI	BDI score post-treatment	score
Rosenbergchange	Amount Rosenberg score changed from pre to post-treatment	“PreRosenberg”-“PostRosenberg”

BDIchange	Amount BDI score changed from pre to post-treatment	"PreBDI-"PostBDI"
firstime	Was this their first time participating in a group?	1-yes 2-no
Group	Which group did they participate in?	1-MIA 2-SDSM 3-both
Dropout?	Did participant drop out of their group?	1-dropped out 2-stayed in group

Descriptives of Scale Variables:

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Income	58	4.00	1.00	5.00	2.1207	1.15588
Safety	58	4.00	1.00	5.00	3.9138	.88426
PreRosenberg	65	21.00	9.00	30.00	18.8308	6.23453
PostRosenberg	36	19.00	11.00	30.00	21.6944	6.55883
Rosenbergchange	34	17.00	-6.00	11.00	2.0294	3.15734
PreBDI	62	47.00	.00	47.00	20.4032	12.98228
PostBDI	33	36.00	.00	36.00	11.4848	10.08440
BDIchange	29	26.00	-4.00	22.00	6.5517	7.14936
Valid N (listwise)	27					

Frequencies of Nominal Variables:

Race and Ethnicity:

Race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	white/non-hispanic	27	39.1	43.5	43.5
	hispanic	15	21.7	24.2	67.7
	african-american	10	14.5	16.1	83.9
	african	1	1.4	1.6	85.5
	haitian	2	2.9	3.2	88.7
	bi-racial	4	5.8	6.5	95.2
	other	3	4.3	4.8	100.0
	Total	62	89.9	100.0	
Missing	99.00	7	10.1		
Total		69	100.0		

Exposure to Childhood Trauma:

exposed to childhood trauma?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	45	65.2	71.4	71.4
	no	18	26.1	28.6	100.0
	Total	63	91.3	100.0	
Missing	99.00	6	8.7		
Total		69	100.0		

Exposure to Physical Abuse in Childhood:

physical CH abuse

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	26	37.7	41.3	41.3
	no	37	53.6	58.7	100.0
	Total	63	91.3	100.0	
Missing	99.00	6	8.7		
Total		69	100.0		

Exposure to Sexual Abuse in Childhood:

sexual CH abuse

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	18	26.1	28.6	28.6
	no	45	65.2	71.4	100.0
	Total	63	91.3	100.0	
Missing	99.00	6	8.7		
Total		69	100.0		

Exposure to Psychological Abuse in Childhood:

psychological CH abuse?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	27	39.1	42.9	42.9
	no	36	52.2	57.1	100.0
	Total	63	91.3	100.0	
Missing	99.00	6	8.7		
Total		69	100.0		

Exposure to Neglect in Childhood:

neglect in CH

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	12	17.4	19.0	19.0
	no	51	73.9	81.0	100.0
	Total	63	91.3	100.0	
Missing	99.00	6	8.7		
Total		69	100.0		

Exposure to Violence in Childhood:

CH witness to violence

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	20	29.0	31.7	31.7
	no	43	62.3	68.3	100.0
	Total	63	91.3	100.0	
Missing	99.00	6	8.7		
Total		69	100.0		

Exposure to Other Types of Abuse in Childhood:

other CH abuse

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	1	1.4	1.6	1.6
	no	62	89.9	98.4	100.0
	Total	63	91.3	100.0	
Missing	99.00	6	8.7		
Total		69	100.0		

Exposure to Physical Abuse as an Adult:

ADphysical

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	48	69.6	77.4	77.4
	no	14	20.3	22.6	100.0
	Total	62	89.9	100.0	
Missing	99.0	7	10.1		
Total		69	100.0		

Exposure to Sexual Abuse as an Adult:

ADsexual

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	20	29.0	32.3	32.3
	no	42	60.9	67.7	100.0
	Total	62	89.9	100.0	
Missing	99.00	7	10.1		
Total		69	100.0		

Exposure to Threats of Violence as an Adult:

threats of violence?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	51	73.9	82.3	82.3
	no	11	15.9	17.7	100.0
	Total	62	89.9	100.0	
Missing	99.00	7	10.1		
Total		69	100.0		

Exposure to Emotional Abuse as an Adult:

ADemotional

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	55	79.7	88.7	88.7
	no	7	10.1	11.3	100.0
	Total	62	89.9	100.0	
Missing	99.00	7	10.1		
Total		69	100.0		

Exposure to Control of Resources or Movement as an Adult:

control of resources or movement?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	42	60.9	67.7	67.7
	no	20	29.0	32.3	100.0
	Total	62	89.9	100.0	
Missing	99.00	7	10.1		
Total		69	100.0		

Exposure to Other Types of Abuse as an Adult:

ADother

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	12	17.4	19.4	19.4
	no	50	72.5	80.6	100.0
	Total	62	89.9	100.0	
Missing	99.00	7	10.1		
Total		69	100.0		

Income Level:

Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	$0-10,000	21	30.4	36.2	36.2
	$10,000-25,000	20	29.0	34.5	70.7
	25,000-40,000	9	13.0	15.5	86.2
	40,000-60,000	5	7.2	8.6	94.8
	60,000+	3	4.3	5.2	100.0
	Total	58	84.1	100.0	
Missing	99.00	11	15.9		
Total		69	100.0		

Perceived Safety Level Upon Group Entry:

Safety

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not safe at all	1	1.4	1.7	1.7
	not safe most of the time	4	5.8	6.9	8.6
	not safe some of the time	7	10.1	12.1	20.7
	mostly safe	33	47.8	56.9	77.6
	very safe all the time	13	18.8	22.4	100.0
	Total	58	84.1	100.0	
Missing	99.00	11	15.9		
	Total	69	100.0		

Highest Level of Education

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than high school	3	4.3	6.8	6.8
	high school/GED	17	24.6	38.6	45.5
	associates	5	7.2	11.4	56.8
	college	12	17.4	27.3	84.1
	more than college	7	10.1	15.9	100.0
	Total	44	63.8	100.0	
Missing	99.00	25	36.2		
	Total	69	100.0		

Treatment Group:

group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	MIA	47	68.1	68.1	68.1
	SDSM	22	31.9	31.9	100.0
	Total	69	100.0	100.0	

Group Dropouts and Completers:

dropout?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	33	47.8	47.8	47.8
	no	36	52.2	52.2	100.0
	Total	69	100.0	100.0	

First Time Participants and Group Repeaters:

firstime

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	69	78.4	78.4	78.4
	no	19	21.6	21.6	100.0
	Total	88	100.0	100.0	