USE OF EXPRESSIVE WRITING TO MEDIATE THE EFFECTS OF PTSD SYMPTOMOLOGY ON FEMALE DOMESTIC VIOLENCE VICTIMS

By

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Title of Study: USE OF EXPRESSIVE WRITING TO MEDIATE THE EFFECTS OF PTSD SYMPTOMOLOGY ON FEMALE DOMESTIC VIOLENCE VICTIMS

Major Field: COUNSELING PSYCHOLOGY

Abstract: This study examined the effectiveness of expressive writing, using two writing instructions in increasing general mental health and specifically PTSD symptomology for women residing in a domestic violence shelter. Seventy-nine women were randomly assigned to a control group writing about items in their environment, a narrative group asking them to create a story about their history of abuse, or a repeated exposure group where they wrote repeatedly about their most freighting experience of abuse. Of the 79 participants 28 completed all requirements of inclusion. Participants wrote for 4 consecutive days. Treatment effects were measured with the use of the Symptom Checklist 90 Revised and the Impact of Events Scale – Revised. Results did not support the use of expressive writing for female victims of domestic violence to increase general mental health or reduction of PTSD symptoms.

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CHAPTER I

INTRODUCTION

USE OF EXPRESSIVE WRITING TO MEDIATE THE EFFECTS OF PTSD SYMPTOMOLOGY OF FEMALE DOMESTIC VIOLENCE VICTIMS

By as early as 1997, investigators using Pennebaker's general writing paradigm had found numerous benefits for expressive writing. Pennebaker (1997) highlights these stating that writing about emotional experiences, versus writing about superficial events, had been associated with a number of improvements including a reduction in physician's visits, (Greenberg & Stone, 1992; Greenberg, Wortman, & Stone, 1996; Pennebaker & Francis, 1996) immune functioning (Greenberg & Stone, 1992; Pennebaker, Kiecolt-Glaser, & Glaser, 1988; Petrie, Booth, & Pennebaker, 1998), reported improvement in mood and indicators of well-being by the participants (Greenberg & Stone, 1992; Pennebaker & Beall, 1986), as well as improvement in grade point average (Pennebaker, Colder, & Sharp, 1990).

The first meta-analysis of expressive writing was performed by Smyth (1998)and included 19 studies. Smyth found an overall weighted effect size of 0.47 for the studies. Even when excluding the largest outlier, the results were still significant at the 0.0001 level. It was also found that there was no significant difference between the

weighted effect sizes, showing consistency of effect across the studies. Individual outcome types were examined within studies including overall outcome, reported health and psychological well-being, physiological functioning, general functioning, and health behavior. Five of the six outcome types were found to be significant with only health behavior not included. This means that overall participants saw approximately a 23% improvement. Smyth describes this as comparable to effect sizes seen when examining other psychological, behavioral, or educational treatments. There are several points worth noting. Participants did report some short term distress as a result of writing; however, those who showed distress were more likely to show long term improvement. Studies that spaced the writing sessions over a longer period of time showed greater effect sizes, and finally, participants who wrote about current trauma were more likely to experience improvement than those who wrote about past trauma.

Another meta-analysis done by Fisina, Borod, &Lepore (2004) included 9 studies. Researchers specifically looked at any differences in outcomes for medically ill versus those that were psychologically ill. They were able to determine that again expressive writing was able to significantly improve health benefits for subjects. The results were more "modest," however, than the Smyth results. They were unable to find significance for individuals suffering from psychological illness. This included subjects with PTSD, psychiatric inmates, and severely depressed/suicidal individuals. They were able to determine improved health outcomes for depression, mood, anxiety, and sleep quality. It was pointed out that some studies were quite small. It is also possible that as research expands, the bounds of expressive writing's usefulness are beginning to show. It is also possible that adjustment to the initial boundaries will also need to be adapted to psychological populations.

Another Meta-analysis done by Frattaroli (2006) included 146 studies speaking to the increase in expressive writing research. While increasing the number of studies and obviously the number of participants, she showed a much smaller overall effect size at 0.075. While disappointing, this includes many more unpublished studies and Frattaroli points out that this is an intervention that costs nothing to administer. Many of the previous beliefs about expressive writing were also again confirmed including increased effect sizes when the number of writing sessions was increased, lengthened (i.e. at least 20 minutes), spaced out by time, and included specific instructions. She goes on to point out that if the "optimal conditions are examined (high dosage, privacy during sessions, specific disclosure instruction), the average effect size of those eight studies was .200."

This all led to acceleration in the study of the expressive writing paradigm. Several factors have been cited as to the increased interest in expressive writing research. These have included the successful application of the expressive writing techniques to a wide variety of issues with dramatic success. The low cost of using expressive writing, as well as the fact that writing provides a way for individuals to communicate difficult experiences without many of the traditional barriers, are additional benefits of using this treatment (Lepore & Smyth, 2002).

Assessing the literature at the time, and aided by new software making it possible to assess the type of writing that was being done, Pennebaker has reported "several linguistic factors that reliably predicted improved health. First, the more individuals used positive emotion words, the better their subsequent health. Second, a moderate number of negative emotion words predicted health. Both very high and very low levels of negative emotion words correlated with poorer health. Third, and most important, an increase in both causal

and insight words over the course of writing was strongly associated with improved health" (Pennebaker, 1997).

There have been conflicting findings as to the benefits of expressive writing for individuals with PTSD. Gidron et al (1996) found disclosure to have a negative effect on individuals with PTSD. While examining whether narrative development was necessary for reduction of intrusive thoughts, Smyth, True, & Souto (2001) found that a one time writing task actually increased the level of intrusion, for participants in the narrative condition when follow up was done at 5 weeks. Intrusion would include things such as unwanted recollections, dreams, or feeling as though the event were happening (DSM-IV TR 1994). This was a significant difference from the other experimental condition where participants were asked to write in a fragmented style. Participants in the narrative condition did show improvement in health outcomes and the fragmented writing condition did not. This study only asked participants to write on one occasion for 20 minutes. This could be explained through exposure theory in that the participants didn't have an opportunity to become desensitized. Frattaroli (2006) in her Meta-Analysis found that participants benefited more when writing conditions were spaced out more. Smyth, True, and Souto (2001) also point out that this is the first time that it has been shown that experimentally manipulating the narrative used in writing produces a different response. Previous studies have shown that different writing styles do produce different results but it has been the natural inclination of the writers that has produced that result. The writers hypothesize that the writing may only serve to sensitize participants and not allow them the opportunity to habituate to the traumatic memory. This would be consistent with much research on PTSD treatments (Foe & Kozak, 1986).

Schoutrop et al. (2002) found significant improvement in PTSD symptoms of re-experiencing and avoidance (hyper-arousal was not assessed), as well as psychological functioning (depression and hostility) after asking participants to write 5 times for 45 minutes about a traumatic event. When specifically looking at the psychological benefits of expressive writing, it has been found that subjects experience greater benefit (psychological and physical) when they are asked to repeatedly write about the same traumatic event (Sloan, Marx, & Epstein, 2005). The authors go on to state that this is consistent with exposure based treatment. This also runs counter to others' explanations of the active mechanism involved in the benefits of expressive writing focusing on narrative development or causation.

Two of the theories currently being examined to explain the benefits of expressive writing are the Cognitive-Processing Theory and the Exposure Model. The Cognitive-Processing Theory has been supported by research which has focused on the content of the writing assignments. It has been found that those who experience the greatest benefit tend to increase the use of causation and insight words over the course of their writing (Pennebaker, 1993). The Exposure Model is similar to exposure therapy in having been used for some time to treat PTSD. The theory asserts that participants are forced to confront negative experiences leading to extinction and thus a reduction in symptoms.

There are indications that expressive writing would appear to lend itself well to the needs of domestic violence victims. The writing instruction can be tailored to address any type of trauma. In addition, it would require virtually no expense and utilizes very little of the therapist's time, allowing therapy time to focus on other areas that may be more urgent. It has also been pointed out that structured writing allows individuals to work at their own

pace and in their own environment (Schoutrop, Lange, Hanewald, Davidovich, & Salomon, 2002).

Purpose of the Study/Research Questions

This study examined the utility of using expressive writing to increase overall mental health functioning of female domestic violence victims as well as specifically seeking to reduce symptoms of PTSD. This research is aimed at determining answers to the following questions:

1. Can expressive writing be used in a real world environment of a domestic violence shelter to increase general mental health functioning?

2. Can expressive writing be used in a real world environment of a domestic violence shelter to decrease the symptoms of Post-Traumatic Stress Disorder?

3. Can writing instructions be altered to produce a more advantageous effect in increasing general mental health function and reducing symptoms of PTSD?

4. Are instructions which focus on narrative development and causation more effective or are instructions which focus on repeated exposure more advantageous?

CHAPTER II

METHODOLOGY

Participants

Two domestic violence shelters in midsized towns in New Mexico agreed to participate in this study. Over a two year period, clients at both shelters were approached for participation in the study. Participants were asked to participate in a study about journaling. No compensation was given for participation.

Sample Characteristics

Approximately 79 women initially expressed interest in the study. Of those, 46 (58%) completed the initial requirements of the study. In all, 28 completed all phases of the study (35%). When examined by conditions, 8 remained in the repetitive group, 10 in the narrative group, and 10 in the control group. Because subjects were allowed to write privately and turn in the journals later, a high percentage never turned in their writing samples. Of the total initially recruited (79), those completing for each condition were as follows: repetitive 8 of 25 or 32%, narrative 10 of 27 or 37%, and control 10 of 26 or 40%. Treatment compliance was very low overall and it must be stressed that this study was done in an environment that can be very chaotic, and subjects are prone to frequent moves and changing life situations. This was a convenience sample, which contained an

age range of 21-65. Participants self-identified their ethnicities as Caucasian (50%), Hispanic (46.4%), and African American (3.6%). Half of the participants had been in the abusive relationship for at least 6 years, and over half had left the relationship at least 3 times. It is expected that most participants were primarily of low SES given that this is the group that is most likely to use shelter services. See table 1 demographic makeup of participants who completed and did not complete. This also allowed for comparison of demographics information of participants who did not complete the study. While the procedures involved in the study were maintained as consistently as possible, each shelter had its own requirements and programs for the women in their particular shelter.

Table 1: Demographic Makeup of Participants Who Completed Vs. Not Completed

Table 1 demographic makeup of participants who completed Vs. not completed						
	Completed (n=28)			Not Completed (n=18)		
	High	Low	Mean	High	Low	Mean
Age	65	21	37.3	23	59	37.3
Ethnicity		%			%	
African American	1	3.3		1	5.6	
Hispanic	13	46.4		7	38.9	
White Non-Hispanic	14	50.0		10	55.6	
Length of Relationship		%			%	
Less than a month	1	3.6		2	11.1	
1-6 months	4	14.3		2	11.1	
6-12 months	3	10.7		4	22.2	
1-5 years	6	21.4		4	22.2	
6-10 years	6	21.4		2	11.1	
10-15 years	4	14.3		1	5.6	
15-20 years	2	7.1		3	16.7	
20 + years	2	7.1		0		
Number of Abusive Relationships		%			%	
1	5	17.9		3	16.7	
2	6	21.4		6	33.3	
3	9	32.1		4	22.2	
4	2	7.1		0		
5	4	14.3		1	5.6	
6 +	2	7.1		4	22.2	

Times left Relationship		%			%	
1	5	17.9		4	22.2	
2	4	14.3		3	16.7	
3	7	25.0		4	22.2	
4	3	10.7		2	11.1	
5	4	14.3		1	5.6	
6	3	10.7		3	16.7	
7	2	7.1		1	5.6	
8	0					
Types of Abuse reported		%			%	
Verbal	26	92.9		17	94.4	
Physical	25	89.3		17	94.4	
Sexual	15	53.6		10	55.6	

Procedure

Participants were approached during a weekly meeting and given information about the study including the confidential nature of the study and limits to confidentiality. Clients were informed that no identifying information would be connected with their narratives unless they included information. Participants were discouraged from including identifying information such as names or descriptions. If subjects indicated interest in the study they were provided with more detailed information, given the informed consent paperwork, as well as given the package of information for the study including the written instructions. The instructions were verbally explained to them, and any questions answered. Participants were informed that on site counselors at the shelter were available to talk to them if they wished given the sensitivity of the material asked in the assessment and narratives. Participants were not monitored during their writing but were instructed to write for 20 minutes. Once completed, subjects turned in their writing samples to staff.

Assignment to Condition

Participants were randomly assigned to one of three conditions. All participants were given the same assessments pre-writing as well as post-writing. Only the specific writing instructions changed for the different writing conditions. Initial assessments were given on the first day of writing and were counterbalanced. Demographic information such as age, ethnicity, and length of abuse relationship were also collected.

Writing Instructions

Control

The writing instructions for the Control group were as follows:

> "Instructions Day 1 - Over the next 20 minutes, we want you to write about the shoes that you are wearing today. Don't worry about grammar, spelling, or sentence structure. The important thing is that you give a good description of the shoes. This could include how they look, how they feel or any other information about them you would like to share."
>
> "Instructions Day 2 – Over the next 20 minutes, we want you to write about a meal that you had today. Don't worry about grammar, spelling, or sentence structure. The important thing is that you write about the meal. This could include writing about what foods you had, how they tasted, how they looked, etc."
>
> "Instructions Day 3 - Over the next 20 minutes, we want you to write about the outfit that you are wearing today. Don't worry about grammar, spelling, or

sentence structure. The important thing is that you write about your outfit. This could include how it looks, what it is made of, what color it is, etc.“

“Instructions Day 4 - Over the next 20 minutes, we want you write about an object in the room that you are in. Don’t worry about grammar, spelling, or sentence structure. The important thing is that you write about the object. This could include writing about how it looks, what it does, or how it fits in the room.”

There was concern of having subjects write about a planning activity as many studies have done. Having them focusing on their schedule and day could introduce some confounding variables as subject may be more apt to engage in activities if planning were increased.

Repeated Exposure

The writing instructions for the repeated exposure group were as follows:

“Over the next 20 minutes, we want you to write about your most frightening experiences with your partner. Describe the upsetting event in as much detail as possible. This could include what you saw, heard, felt, smelled, and tasted, as well as your reactions, thoughts, feelings, and actions at the time. Don’t worry about grammar, spelling, or sentence structure. The important thing is that you write about your deepest thoughts and feelings about the experience. Some people find this writing upsetting, and may cry or feel sad or depressed afterwards. This is quite normal.”

These same instructions were given for each of the 4 days of writing. (Adapted from Guastella & Dadds 2006).

Narrative

The writing instructions for the narrative group are as follows:

"Instructions Day 1 - You have recently gone through an event that may have been quite stressful or traumatic. Over the next 20 minutes, we want you to write about some of your experiences with your partner. Don't worry about grammar, spelling, or sentence structure. The important thing is that you write about your deepest thoughts and feelings about the experience. Today we would like you to write about the first time you can remember your partner being abusive toward you. You can write about his behavior or your own. We also encourage you to write about your thoughts and feelings about what was happening. It is critical, however, that you let yourself go and touch those deepest emotions and thoughts that you have. Some people find this writing upsetting, and may cry or feel sad or depressed afterwards. This is quite normal."

Instructions Day 2 - "You have recently gone through an event that may have been quite stressful or traumatic. Over the next 20 minutes, we want you to write about some of your experiences with your partner. Don't worry about grammar, spelling, or sentence structure. The important thing is that you write about your deepest thoughts and feelings about the experience. Today we would like you to write about the most violent time you can remember your partner being abusive toward you. You can write about his behavior or your own. We would also

encourage you to write about your thoughts and feelings about what was happening. It is critical, however, that you let yourself go and touch those deepest emotions and thoughts that you have. Some people find this writing upsetting, and may cry or feel sad or depressed afterwards. This is quite normal."

Instructions Day 3 - "You have recently gone through an event that may have been quite stressful or traumatic. Over the next 20 minutes, we want you to write about some of your experiences with your partner. Don't worry about grammar, spelling, or sentence structure. The important thing is that you write about your deepest thoughts and feelings about the experience. Today we would like you to write about the decision you made to leave. You can write about what happened that led to you deciding to leave. We would also encourage you to write about your thoughts and feelings about what was happening. It is critical, however, that you let yourself go and touch those deepest emotions and thoughts that you have. Some people find this writing upsetting, and may cry or feel sad or depressed afterwards. This is quite normal."

Instructions Day 4 - "You have recently gone through an event that may have been quite stressful or traumatic. Over the next 20 minutes, we want you to write about some of your experiences with your partner. Don't worry about grammar, spelling, or sentence structure. The important thing is that you write about your deepest thoughts and feelings about the experience. Today we would like you to write about what you have learned as a result of your experiences. This could include things you have learned about yourself, others, or life in general. This could include both positive and negative things that you have learned. We also

encourage you to write about your thoughts and feelings about what you have learned. It is critical, however, that you let yourself go and touch those deepest emotions and thoughts that you have. Some people find this writing upsetting, and may cry or feel sad or depressed afterwards. This is quite normal."

Thus the narrative condition asked them to create a story with the first day emphasizing the first incidence of violence, the second day emphasized the worst incidence of violence, the third asking about the incident that led to them leaving and the last days asking participants to look back at the experience and focus on things they have learned from the experience.

An independent rater in addition to the researcher read through the written assignments to determine if they appeared to stay on topic. While none of the samples were removed for lack of adherence it was noted that some writing samples were quite short leading to questions of adherence to the 20 minute time table of writing.

Measures

Participants were asked to complete the following assessments prior to performing their writing as well as at a 1 month follow-up. Assessments were performed in a counter-balanced format.

Impact of Event Scale – Revised (Weiss & Marmar, 1997)

The original version of the Impact of Event Scale has been described as the "most widely used self-report measure of stress response or PTSD symptoms of experiencing and numbing and avoidance" (Weiss, 2004). The scale was later revised to reflect the

addition of the hyper-arousal criteria of the DSM-IV and has been used since 1997. The IES-R is a self-report measure consisting of 22 items. Items reflect the criteria B, C, and D of the DSM-IV, intrusion, avoidance, and hypersensitivity respectively. Subjects were asked to rate the distress they have experienced in the last 7 days on a likert scale of "A little bit," "Moderately," "Quite a bit," and "Extremely."

As of 2004, Weiss reported that the scale has been published in English, Chinese, French, German, Japanese, and Spanish with unpublished versions in Dutch and Italian. When the revised version was originally published, Weiss and Marmar (1997) reported high internal consistency with subscale scores ranging from .84 to .85 for the intrusion scale, 0.79 to 0.90 for the avoidance scale, and 0.79 to 0.90 for the hyper-arousal scale. They also reported a test-retest correlation coefficient from 0.57 to 0.94. Subsequent research has shown similar findings. Creamer, Bell, & Failla, (2003) found a Cronbach's alpha of .96 for the total scale with subscales in a similar range, 0.94, 0.87, and 0.91 respectively. Participant's scores on each of the subscales will be examined as well as their total score.

Symptom Check List - 90 Revised (Derogatis, 1994)

The SCL-90R is a 90 question self-report inventory. It is one of the most frequently used psychological assessments used currently (Derogatis, 1994). It has been used with clients from various demographic backgrounds with a variety of diagnoses in both inpatient and outpatient settings. In 1994 the manual listed over 750 published reports using the SCL-90 R (Derogatis, 1994). The SCL-90 R is composed of 9 subscales with 3 general scales. The SCL-90 R has shown internal consistency ranges

from .79 to .90. One week test-retest reliability ranges from .78 to .90. It has also shown good construct validity when compared to similar tests of psychological distress. For the purpose of this study the researcher will be examining the Global Severity Index as a global assessment of psychological functions. The subscales for anxiety and depression will also be examined given that these are the two that are most closely related to PTSD.

CHAPTER III

RESULTS

Analysis

Research Question 1

Can expressive writing be used in a real world environment of a domestic violence shelter to increase general mental health functioning?

In order to answer the research question a series of 2x2 repeated measure ANOVAs were computed. Condition was used as a between subjects factor where both treatment conditions were combined and time was a with-in subjects factor for each of the following subscales of the SCL90-R: Depression, Anxiety, and Global Severity Index. Table 2 presents the means and standard deviations of each of the groups for the Symptom Checklist 90-Revised.

No main effect was found for the SCL 90-R. Results from the SCL 90-R for main effects are as follows: Depression ($F(1,26) = 3.95$, $p = 0.057$, $\eta^2 = 0.132$). Anxiety ($F(1,26) = 1.84$, $p = 0.187$, $\eta^2 = 0.066$). Global Severity Index ($F(1,26) = 2.03$, $p = 0.166$, $\eta^2 = 0.073$).

No interaction effect between condition and time was found in the results for the SCL 90-R either. ANOVA interaction results for the SCL 90-R are as follows:

Depression ($F(1,26) = 1.48$, $p = 0.235$, $\eta^2 = 0.054$). Anxiety ($F(1,26) = 0.121$, $p = 0.731$, $\eta^2 = 0.005$). Global Severity Index ($F(1,26) = 0.181$, $p = 0.674$, $\eta^2 = 0.007$). Therefore expressive writing was not found to be effective when used in a real world environment of a domestic violence shelter to increase general mental health functioning.

Table 2: Symptom Checklist 90-Revised, Pre/Post Intervention for the Treatment Conditions Vs. Control Condition

Table 2

Symptom Checklist 90-Revised, Pre/Post Intervention for the Treatment Conditions Vs. Control Condition

	Treatment (n=18)				Control (n=10)			
	Pre-Test		Post-Test		Pre-Test		Post-Test	
	M	SD	M	SD	M	SD	M	SD
Depression	70.83	11.69	68.83	11.69	75.10	9.65	72.00	8.12
Anxiety	66.22	11.95	64.61	10.91	74.50	9.53	67.80	9.33
General Severity Index	69.94	11.02	65.56	14.82	71.80	11.31	69.20	9.43

Research Question 2

Can Expressive Writing be used in a real world environment of a domestic violence shelter to decrease the symptoms of Post-Traumatic Stress Disorder?

In order to answer the research question a series of 2x2 repeated measure ANOVAs were computed. Condition was used as a between subjects factor where both treatment conditions were combined and time was a with-in subjects factor for each of the following subscales of the IES-R: Intrusion, Avoidance, Hyperarousal, and Total. Table 3 presents the means and standard deviations of each of the groups for the Symptom Checklist 90-Revised.

No main effect was found for the IES-R as well. Results from the IES-R for main effects are as follows: Intrusion ($F(1,26) = 1.22$, $p = 0.279$, $\eta^2 = 0.045$). Avoidance ($F(1,26) = 0.755$, $p = 0.393$, $\eta^2 = 0.028$). Hyperarousal ($F(1,26) = 0.629$, $p = 0.435$, $\eta^2 = 0.024$). Total ($F(1,26) = 1.321$, $p = 0.261$, $\eta^2 = 0.048$) As a result of no interaction or main effect found, no follow up tests were performed.

No interaction effect between condition and time was found in the results for the IES-R either. ANOVA interaction results for the IES-R are as follows: Intrusion ($F(1,26) = 0.029$, $p = 0.865$, $\eta^2 = 0.001$). Avoidance ($F(1,26) = 2.096$, $p = 0.160$, $\eta^2 = 0.075$). Hyperarousal ($F(1,26) = 0.158$, $p = 0.694$, $\eta^2 = 0.006$). Total ($F(1,26) = 0.008$, $p = 0.931$, $\eta^2 = 0.000$). As a result of no interaction or main effect found, no follow up tests were performed. Therefore, expressive writing was not found to be effective in a real world environment of a domestic violence shelter to decrease symptoms of PTSD.

Table 3: Impact of Events Scale – Revised, Pre/Post Intervention for the Treatment Conditions Vs. Control

Table 3								
Impact of Events Scale – Revised, Pre/Post Intervention for the Treatment Conditions Vs. Control								
	Treatment (n=18)				Control (n=10)			
	Pre-Test		Post-Test		Pre-Test		Post-Test	
	M	SD	M	SD	M	SD	M	SD
Intrusion	2.23	1.09	2.05	1.24	2.63	0.90	2.38	1.25
Avoidance	2.22	0.94	1.92	0.91	2.53	0.85	2.60	0.62
Hyperarousal	2.06	1.07	1.97	1.13	2.90	1.03	2.65	1.14
Total	2.22	0.92	2.05	0.98	2.69	0.82	2.54	0.92

Research Question 3

Can writing instructions be altered to produce a more advantageous effect in increasing general mental health functioning and reducing PTSD symptoms?

In order to answer the research question of whether or not there was any difference among the three groups on the dependent variables (IES-R Intrusion, IES-R Avoidance, IES-R Hyperarousal, IES-R Total, SCL90-R Depression, SCL 90-R Anxiety, and SCL 90-R Global Severity Index) a series of 3x2 repeated measure ANOVAs were computed. Condition was used as a between subjects factor and time was a with-in subjects factor.

Impact of Events Scale-Revised

No main effect was found for the IES-R. Results from the IES-R for main effects are as follows: Intrusion ($F(2,25) = 1.026$, $p = 0.321$, $\eta^2 = 0.019$). Avoidance ($F(2,25) = 1.828$, $p = 0.188$, $\eta^2 = 0.068$). Hyperarousal ($F(2,25) = 0.418$, $p = 0.524$, $\eta^2 = 0.016$). Total ($F(2,25) = 1.371$, $p = 0.253$, $\eta^2 = 0.052$).

No interaction effect between condition and each dependent variable was found in the results for the IES-R. Table 4 presents the means and standard deviations of each of the groups for the Impact of Events Scale. ANOVA interaction results for the IES-R are as follows: Intrusion ($F(2,25) = 0.247$, $p = 0.783$, $\eta^2 = 0.019$). Avoidance($F(2,25) = 1.047$, $p = 0.366$, $\eta^2 = 0.077$). Hyperarousal ($F(2,25) = 0.118$, $p = 0.889$, $\eta^2 = 0.009$). Total ($F(2,25) = 0.060$, $p = 0.942$, $\eta^2 = 0.005$). As a result of no interaction or main effect found, no follow up tests were performed.

Table 4: Impact of Events Scale – Revised, Pre/Post Intervention for the Treatment Conditions

Table 4												
Impact of Events Scale – Revised, Pre/Post Intervention for the Treatment Conditions												
	Narrative (n=10)				Repeated (n=8)				Control (n=10)			
	Pre-Test		Post-Test		Pre-Test		Post-Test		Pre-Test		Post-Test	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Intrusion	3.34	1.07	2.01	1.25	2.10	1.17	2.10	1.32	2.63	0.90	2.38	1.25
Avoidance	2.20	0.93	1.86	0.90	2.25	1.03	2.00	0.98	2.53	0.85	2.60	0.62
Hyperarousal	2.17	1.21	2.08	1.19	1.92	0.93	1.92	1.13	2.90	1.03	2.65	1.14
Total	2.30	0.96	2.08	1.01	2.13	0.93	2.02	1.00	2.69	0.82	2.54	0.92

SCL 90-R

No main effect was found for the SCL 90-R as well. Results from the SCL 90-R for main effects are as follows: Depression ($F(2,25) = 2.465$, $p = 0.129$, $\eta^2 = 0.090$). Anxiety ($F(2,25) = 0.152$, $p = 0.860$, $\eta^2 = 0.012$). Global Severity Index ($F(2,25) = 0.482$, $p = 0.623$, $\eta^2 = 0.037$).

No interaction effect between condition and each dependent variable was found in the results for the SCL 90-R. Table 5 presents the means and standard deviations of the SCL 90-R anxiety and depression subscales as well as the general severity index scale. ANOVA interaction results for the SCL 90-R are as follows: Depression ($F(2,25) = 0.857$, $p = 0.436$, $\eta^2 = 0.064$). Anxiety ($F(2,25) = 0.152$, $p = 0.860$, $\eta^2 = 0.012$). Global Severity Index ($F(2,25) = 0.482$, $p = 0.623$, $\eta^2 = 0.037$). As a result of no interaction or main effect found, no follow up tests were performed.

Table 5: Symptom Checklist 90-Revised, Pre/Post Intervention for the Treatment Conditions

Table 5												
Symptom Checklist 90-Revised, Pre/Post Intervention for the Treatment Conditions												
	Narrative (n=10)				Repeated (n=8)				Control (n=10)			
	Pre-Test		Post-Test		Pre-Test		Post-Test		Pre-Test		Post-Test	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Depression	65.90	14.43	63.10	13.19	66.63	8.86	66.50	7.64	74.50	9.53	67.80	9.33
Anxiety	70.40	11.91	64.80	16.77	69.38	10.57	66.50	13.04	71.80	11.31	69.20	9.43
General Severity Index	71.40	14.40	67.50	14.37	70.13	8.03	70.50	7.82	75.70	9.65	72.00	8.12

This research found no indication that altering the writing instruction focusing on development of a narrative and encouraging using of causation language or repeated exposure to the most frightening event improved general psychological functioning as measured by the SCL 90 – R or reduced symptoms of PTSD as measured by the IES-R.

Research Question 4

Are instructions which focus on narrative development and causation more effective or are instructions which focus on repeated exposure more advantageous?

As neither writing condition outperformed the control writing condition it was not found that either writing condition was effective at improving general psychological functioning as measured by the SCL 90 – R or reduced symptoms of PTSD as measured by the IES-R.

CHAPTER IV

DISCUSSION

Early research was consistent in showing the positive impact of expressive writing across a wide range of issues. This study was an attempt to move expressive writing from the narrow confines of previous subject groups to a setting that desperately needs low cost, empirically validated treatment options. Domestic violence shelters, for many reasons, have been a closely guarded sanctuary, most times guarded from the eyes of researchers. I was privileged to have the opportunity to meet, talk to, and at times shared the brave and heart wrenching stories of those working to leave violent relationships. In the end, the study did not uphold the hypothesis that expressive writing would be effective for domestic violence victims as they dealt with PTSD symptoms and worked to build their general psychological well-being. It was also, then, unsuccessful in parsing out whether specific writing instructions might be more beneficial for this population. This study took place over the course of two years, accessing women in two shelters. The sample size was very limited, which in turn limited the statistical power of the research.

Limitations

Once of the main goals of this research was to assess the feasibility of using expressive writing to mitigate the symptoms of PTSD and increase general psychological function of domestic violence victims who have sought safety in a shelter setting. The

chaotic environment of shelter life made it difficult to recruit participants, and the dropout rate was exceptionally high, as clients frequently moved prior to the one month follow-up or failed to complete the follow-up. These issues all led to a very small sample size and therefore the research as a whole had very limited power and generalizability. By planting this research into a shelter environment, another limitation was that it was a convenience sample limited by those who choose to seek domestic violence shelter services. Jones, Hughes, and Unterstaller (2001) have pointed out that this focus on those who come forward may skew results, and therefore we understand that they do not necessarily represent all victims of domestic violence. Compounding this is the assumption that most likely those who do come forward for shelter services have experienced more intense domestic violence. With all research there is an attempt to balance the control of the laboratory with an environment that most closely represents to area the tool will be used in. In this study many of the controls often used for expressive writing were relaxed to gain access to a population that is not often included in studies like this.

Historically, expressive writing has been shown to be most effective when writing tasks were spread out and follow-up was as much as 6 months to a year away. In this setting it was impossible to do that given that participant would only be in the shelter at most 90 days with 30 days being an average length of stay. Thus a shorter writing span and follow-up period were used. Another unique aspect to domestic violence that may be overlooked, is that for some of the women the trauma was not over. Typically expressive writing is done from the safety of time and distance. While all women were at that moment in a safe environment, many continued to deal with court hearings, orders of

protection, custody hearings, and the daily stress of having to interact with the person they were trying to get away from. This adds a dynamic not experienced during many expressive writing studies.

While steps were taken to confirm that the writing instructions were followed, participants did the writing on their own and it is impossible to assess whether instructions were followed explicitly, and at times writing skills were questionable. As we move further into assessing researched based practice we need to also be pushing the bounds of practice based research, which is to say research moving into the clinics, practices, and agencies that see clients. This study was an attempt to push the bounds of expressive writing as well as the practical application of its use. In Frattaroli's (2006) meta-analysis of expressive writing 146 studies were examined. Ninety-four (64%) of them used college students exclusively as the subject pool. Expressive writing is pushing into new areas of practical application.

Conclusions

This research did not confirm expressive writing's benefits in reducing depression, anxiety, and PTSD symptoms for victims of domestic violence. This could be an indication of the limits of expressive writing as similar results for PTSD symptoms were found by Koopman (2005). Given the limited participants, however, it may also be looked at as an exploratory endeavor into the everyday uses of expressive writing. There was high dropout and the number of participants was small, as well as a loosing of some of the traditional control used in expressive writing research. While results were not significant, many of the participants expressed that they enjoyed the experience and a few

stated that they planned to continue to write after the conclusion of their participation in the study. While there are many obstacles to doing research with victims of domestic violence, it is my hope that research continues to examine uses of expressive writing to service a many times overlooked and underserved population.

Future Recommendations For Research

Future research is needed in this area. This research was done with a small sample size and future research would benefit from increasing the number of participants. The sample was also very homogeneous in that all participants had recently gotten out of abusive relationships and were currently residing in a domestic violence shelter. I believe the sample and possible future generalizability would be strengthened by including individuals who were receiving services from providers but not in the shelter itself. Enlisting individuals who had been through domestic violence from the general community would also be beneficial.

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APPENDIX

LITERATURE REVIEW

Domestic Violence

First Recognition

Domestic Violence, while having existed in some form throughout history, is really a modern conception. The idea of family violence was not seen in the literature until the 1940's and 1950's and it was not until a classic article in 1962 titled "The Battered Child Syndrome" that it really had any type of label. A group of physicians described battered children that they had been seeing and wanted to make other doctors more aware of the problem (Kempe, Silverman, Steele, Droegemueller, & Silver, 1962). Research and awareness progressed, and throughout the seventies spousal abuse also came to the forefront. At this time there was an increased awareness of domestic violence and the start of the shelter movement as well as changes in laws and public policy pointing specifically to changes in laws to accommodate prosecution of marital rape (Ohlin, & Tonry, 1989). The Violence Against Women Act (VAWA) signed into law in 1994 is an example of the shift in policy as well as its reauthorization in 2000, its reauthorization in 2005, and it's latest reauthorization in 2013, which represents a shift in the social priority of addressing issues of domestic violence.

Prevalence

There is much debate as to the prevalence rates of domestic violence in our

society and this is illustrated by the wide range of estimates used. It has been pointed out that some of this is due to the lack of consistency in the literature as to how the term "prevalence" is used and also the fact that no consistent time frame is used (Brownridge & Halli, 1999). Brownridge and Halli propose a "gold standard" conceptualization where prevalence is referred to as the "extent to which violent behavior is distributed in the population" and incidence as "the amount of violent behavior that occurs among those in the population who experience violence". Both must be considered when looking at the effects of domestic violence on our society. To emphasize the confusion in definitions, other studies define prevalence as "the number of women who have been victimized within a time frame;" most often used are lifetime prevalence, and prevalence within the last 12 months. Incidence was defined as "the number of episodes of interpersonal violence that occurred". This is the terminology used to report the results of the Violence Against Women Survey (Tjaden&Thoennes2000). They point out that this number could exceed prevalence due to multiple incidence of violence. This definition doesn't take into account the extent of the violence that is being perpetrated.

Determining prevalence has been compounded by the fact that many individuals are reluctant to disclose a history of abuse as well as differences in operational definitions within the individual studies as to what constitutes violence. While some studies focus solely on physical violence and/or injury others include emotional and psychological trauma including verbal abuse, stalking behavior, economic abuse, and non-violent means of control and intimidation.

These definitions reflect changing legal definitions as well as attitudes among the population as a whole. Prior to the 1970s most Americans viewed it as a private matter

between a couple and the thought of violence being illegal was rarely considered. Between 1986-1987 and 1996-1997 Alabama adults reported an expanded definition of what constitutes abuse and an increased percentage viewed wife abuse as a felony (Johnson & Sigler, 2000). It was also found that there was considerable variability within the population as well. While there is a strong consensus that physical acts of violence such as punching, slapping, and forced sex are widely perceived to be domestic violence, individuals were more likely to label behaviors as domestic violence when the perpetrator was male verses female (Carlson & Worden, 2005). It was further found that older individuals were less likely to label physical acts as domestic violence as well as less likely to view it as unlawful. Younger participants also estimated higher frequency of domestic violence and it was hypothesized that this shows more receptivity to messages about the prevalence of domestic violence. Where once ignored, domestic violence is a topic of study as well as recognized as a social issue worthy of our time and effort. Regardless of which numbers are examined, it is obvious that millions of woman across the country are affected on a daily basis.

In Toronto, between 18 and 36% of women have suffered physical violence by a romantic partner at some time in their life (Smith, 1987). Brownridge and Halli go on to estimate that between 16 and 30% of Canadian women have been victimized by their current partner at some point in the relationship and that 7 to 18 % have been victimized by their current partner in the last 12 months.

When examining prevalence rates it has been pointed out that early research focused primarily on those who sought out services (Browne, 1993). This not only led to biased samples, but also shifted the emphasis to examination of select women rather than

examination of the pervasive nature of violence against women. Brown goes on to point out that the research tends to focus on physical acts of violence recognizing that criticism, verbal harassment, intimidation, and denial of access to resources is also a part of the overall experience of abuse. She also points out that "survey methods typically do not include the very poor; those who don't speak English fluently; those whose lives are especially chaotic; military families living on base; and individuals who are hospitalized, homeless, institutionalized, or incarcerated at the time the survey is conducted."

Determining variations, if there are any, in minority and at risk groups has proven also very difficult and controversial. Some reports have indicated that African American women could be up to 4 times more likely to experience domestic violence than white women (Straus, Gelles & Steinmetz 1980). Further research has shown much lower numbers. In the 1985 follow up to the National Violence Against Women Survey, reports of severe domestic violence dropped 43% (Hampton, Gelles, & Harrop, 1989). It is also worth noting that this was only looking at "severe" violence. The overall rates of violence were similar. The 1995 National Violence Against Women Survey showed little differences when all minority groups were compared to whites (Tjaden & Thoennes, Full Report of the Prevalence, Incidence, and consequences of Violence Against Women, 2000). The authors point out that when specific minority groups were questioned significant differences did emerge. American Indian women were more likely than white women or African American women to report rape and more likely than African American women to report stalking. Ellison et al (2007) discuss the importance of being cautious when examining such research. Many times the data are confounded. They specifically give the example of examining domestic violence prevalence for Latina

women due to other variables such as the Latino population being younger, issues such as socio economic status (minority groups tend to have lower income), etc. This does not include other social stressors such as racism.

Between November of 1995 and May of 1996 the National Institute of Justice and the Centers for Disease Control and Prevention jointly sponsored a telephone survey of 8000 women and 8000 men. While examining many aspects of violence many questions specifically focused on intimate partner violence. Twenty-five percent of women stated that they had been raped and/or physically assaulted by a current or former spouse, cohabiting partner, or date in their lifetime and 1.5 percent indicated that it had occurred within the last year. Extrapolating those percentages, this would equate with 1.5 million women assaulted annually by an intimate partner in the United States (Garcia-Moreno et al., 2006). In the 2010 National Intimate Partner and Sexual Violence Survey, it was reported that 35 % of women surveyed had experienced physical violence, rape, or stalking by an intimate partner in their lifetime and 5.9% in the last year (Black et al. 2011).

While it is understood that domestic violence is an issue that affects both women and men, overwhelmingly women are the victims of abuse (Garcia-Moreno et al., 2006). It is believed that the dynamics of abuse can be quite different and it would be beyond the scope of this study to examine all situations. This study, therefore, will address domestic violence solely from the standpoint of situations where men are the perpetrators of violence and women are the victims. Studies focusing on women are included in the examination of domestic violence literature and only female subjects will be included in the collection of data.

While many studies have focused on American and North American samples, less work has been done looking at international studies. The World Health Organization sought to examine intimate partner violence in 10 countries, examining both industrialized settings as well as rural settings. Their study collected data from Bangladesh, Brazil, Ethiopia, Japan, Namibia, Peru, Samoa, Serbia, Montenegro, Thailand, as well as the United Republic of Tanzania (Garcia-Moreno et al., 2006). They found lifetime prevalence rates of physical or sexual partner violence varied from 15% to 71% with most sites falling between 30% and 60%. Between 4% and 54% reported an incident of physical or sexual violence or both within the last 12 months. It was further found that partner violence tended to be much lower in industrialized settings. This study shows the impact of intimate partner violence on an international level.

The sheer numbers should compel research and interest in the study of domestic violence. The Family Violence Prevention Fund website quotes Bureau of Justice Statistics as follows: Nearly one third of American women (31%) report being physically or sexually abused by a husband or boyfriend at some point in their lives. In 2001, intimate partner violence made up 20 percent of violent crime against women, and on average more than 3 women a day are murdered by their husbands or boyfriends in this country. Twelve hundred forty seven were killed in 2000.

Effects of Domestic Violence

Economic costs of domestic violence as a society

In 1995 a joint study by the National Institute of Justice and the Centers for Disease Control and Prevention estimated that 1.9 million women are physically assaulted in the United States annually (Tjaden & Thoennes, 2000). Of women surveyed,

17.6% reported that they had been the victim of a completed or attempted rape, 8.1% reported being a victim of stalking and 22.1% reported that they had been physically assaulted by a current or former spouse, cohabitating partner, boyfriend or girlfriend; furthermore, some form of victimization had occurred in the preceding 12 months for 1.3% of those surveyed. This would indicate that 835,000 women were victimized in the last year.

The executive summary of the "Cost of Intimate Partner Violence Against Women in the United States" reports that 5.3 million Intimate Partner Violence (IPV) victimizations occur each year to women over 18 (National Center for Injury Prevention and Control, 2003). This creates 2 million injuries and leads to 550,000 medical visits. They estimated that 8 million days of paid work are lost and 5.6 million days of household productivity are lost. Tragically, 1,252 women were killed by intimate partners in 1995. Direct financial costs are estimated at 4.1 billion for medical and mental health care services, 0.9 billion for lost productivity and 0.9 billion in lifetime earnings lost to death. The report goes on to state that their estimates are likely underestimating the problem of intimate partner violence in the U.S. due to the fact that much data is unavailable or insufficient, giving the examples of common medical services, social services, and criminal justice services, which would include incarceration and further losses of productivity as a society.

Personal cost of domestic violence

The CDC report states "Perhaps more compelling than the economic costs are data about the human costs. But how do you quantify pain, suffering, and decreased quality of life associated with intimate partner violence, both on survivors and on

children exposed to such violence?" (National Center for Injury Prevention and Control, 2003) This is perhaps the dimension most easily overlooked, in part due to the difficulty of quantifying, and also in part due to difficulty in hearing the extent of the pain created as a result of violence and abuse.

In working with victims of domestic violence the personal costs continue on. While there is the personal pain, loss of relationship, loss of home at times, there is also the loss of innocence, the loss of trust in others, and many times the loss of trust in themselves. There is guilt at exposing their children to the violence and abuse as well as the increased likelihood that their children could be involved in substance abuse, legal difficulty, or become victims or perpetrators of domestic violence themselves (O'Keefe, 1994).

Man-made disaster

There is an emerging body of literature indicating that while most traumatic events leave a lasting effect, events that are man-made are more difficult for survivors to reconcile. Hodgkinson (1989), while discussing technological disasters points to some key variables that have some particular relevance for victims of domestic violence and expressive writing. He describes "man-made catastrophe's signifying a dramatic loss of control". This is extremely evident for victims of domestic violence, many times down to the most minute details. He also discussed the "quest for meaning" which is more prevalent in victims of man-made disaster, asking "why me," a question many times asked by victims of domestic violence. This will eventually require a re-appraisal of the value and meaning of life according to Hodgkinson and this is where expressive writing can lend some assistance.

The psychological effects of domestic violence have now been well documented. Initially titled Battered Woman Syndrome, it is now included under the umbrella of Post-Traumatic Stress Disorder (Walker, 2000). One of the first studies to specifically examine PTSD diagnosis among victims of domestic violence was done by Houskamp& Foy (1991). Twenty-six subjects were assessed for degree of exposure to violence as well as assessed for diagnosis of PTSD. In utilizing the Structured Clinical Interview for DSM-IIIR, it was found that 45% of the subjects met the criteria for PTSD. It was also found that a primary determinant of development of PTSD was the severity of the abuse experienced. Houskamp& Foy also point out unique aspects of domestic violence compared to discrete incidence of trauma, in that there are repeated incidence of exposure to trauma as well as exposure to the abuser after the violence has occurred.

PTSD and Domestic Violence

In one of the first studies to examine the presence of PTSD in victims of intimate partner violence residing in shelters, Kemp, Rawlings, & Green (1991) found that 84% of participants met the criteria for PTSD. This still is one of the highest percentages found to date. Worth noting is that the sample size was relatively small at 77 participants. Also the diagnostic criteria of the DSM-III R was used, which lacked the inclusion of avoidance symptomology now recognized. Physical violence was an inclusion criteria for participation in the study which has not been the case in many of the follow-up studies. It was also reported that only 8 participants scored in the lower range of physical violence indicating that overall the sample experienced significant physical violence.

In examining an Australian sample Mertin & Mohr (2000) found that in a sample of 100 female victims of domestic violence living in shelters, 45% fully met the criteria

for PTSD. They further concluded that all of the women showed at least some symptoms of PTSD. Several of the factors that they found predictive of PTSD diagnosis were the belief that they would be killed by their partner (78%), and those who had experienced more severe violence as measured by the Adapted Conflict Tactics Scale. While many times emphasis is placed on physical violence it is important to address the effects of emotional abuse. In one study 72% of women reported that the emotional abuse had a more severe impact on them than the physical abuse (Follingstad, Rutledge, Berg, & Hause, 1990). A study of 93 women found that while physical violence appeared to increase the likelihood of diagnosis for PTSD, women who had not experienced physical violence also developed PTSD, though at a lower rate (Vitanza, Vogel, & Marshall, 1995). They concluded from their study that overt psychological abuse might even cause most of the distress observed in battered women.

In a review of the literature on PTSD and Domestic Violence, Jones, Hughes, & Unterstaller (2001) make a number of relevant points. They determined that almost all the literature on victims of domestic violence and PTSD was done with victims who had come forward. They asserted that these could be "the most troubled of battered women, who sought help because of their distress, or they may be the healthiest of battered women, who have the emotional resources to seek services." This emphasizes the need to look at all estimates cautiously. They also stated that most samples have come from small, nonrandom, single sites. They also described most samples as disproportionately white, low-income, or working-class women. They reported that in their examination of the literature on battered women and PTSD that:

1. The symptoms exhibited by battered women are consistent with major indicators of PTSD.

2. The shelter population is at a higher risk for PTSD.

3. Having multiple experiences of victimization increases the likelihood of PTSD particularly if the abuse is sexual.

4. The extent, severity, and type of abuse is associated with the intensity of PTSD.

5. Other forms of emotional distress accompany PTSD, particularly high prevalence of depression and dysthymia.

6. Suicide is a risk among domestic violence victims who exhibit PTSD symptoms.

7. Substance abuse was reported in a high percentage of victims of domestic violence.

8. Additional mental health concerns are often reported including cognitive difficulties, somatization, anxiety disorders, phobias, and more.

9. Demographic and socioeconomic factors have been found to have some effect on PTSD and other mental health symptoms.

Post-Traumatic Stress Disorder

Historical Roots

In her book *Trauma and Recovery*, Judith Herman (1997) points out that the roots of domestic violence research and Post Traumatic Stress Disorder originated in the earliest recesses of our profession. She reminds us that much of Freud's earliest work

was with victims of sexual abuse and psychoanalysis was built in part on his clinical work with these “neurotic” patients.

It was not until World War I that issues related to PTSD were again undertaken. Again the connection was made to earlier work as Lewis Yealand discussed the “Hysterical Disorders of Warfare” (Herman, 1997). Other terms were also used. British Psychologist Charles Myers referred to it as “shell shock,” believing that the symptoms were the direct result of patients having explosives detonate near them. Combat Neurosis is another term that has been used in conjuction with PTSD. Other terms have been used such as Rape Trauma Syndrome (Burgess & Holmstrom, 1974). These have now been combined into a single diagnosis. Walker argues that PTSD diagnoses, though, are not adequate when describing the entire set of symptoms rape survivors experience (Walker, 2000).

It was not untill 1980 that PTSD became a recognized digognosis with the release of the DSM-III. At that time the focus was a single event “conceptualized as a catastrophic stressor that was outside the range of usual human experience”. It also lacked the current criteria of hyperarousal which was added with the DSM-IV in 1994. While originally intended to be used for diagnosing extreme experiences, current DSM-IV statistics place prevalence between 1% and 14 % in community based samples and 3% to 58% among combat veterans, victims of volcanic eruptions, or criminal violence. It is worth noting that Appel and Beebe (1946) found that “200-240 days in combat would suffice to break even the strongest soldier”. When examining domestic violence this is of particular relavence given the long term nature of the abuse in many instances.

Symptom Sequelia

Current DSM-IV criteria require exposure to a traumatic event in which the person experienced, witnessed, or was confronted with an event that involved the actual or threatened death or serious injury, or threat to the physical integrity of self or others in which the client experienced intense fear, helplessness, or horror (American Psychological Association, 1994). This has lead some to question the diagnosis of PTSD for domestic violence if it isn't particularly cruel or violent in part because the abuse isn't to the point of feared serious injury or death. There is rarely a single event, with the abuse many times taking place over the course of years. Other diagnostic criteria require one symptom of re-experiencing the event, 3 or more symptoms of avoidance, and two or more symptoms of increased arousal. The symptoms must persist for more than a month and produce clinically significant distress.

Treatment

Critical incident stress debriefing.

Critical Incident Stress Debriefing (CISD) has been one of the most common interventions immediately following a disaster. Initially developed to help early responders in the wake of coping with disasters. Gray and Litz(2005) describing the overarching goals of CISD stated that they are "(a) to educate individuals about stress reactions and ways of coping adaptively with them, (b) to instill messages about the normality of reactions to PTE [Potentially Traumatic Event], (c) to promote emotional processing and sharing of the event, and (d) to provide information about, and opportunity for, further trauma related intervention if it is requested by the participant."

It was further emphasized that participation should always be voluntary, an issue that is sometimes muddied by the culture that first responders work in.

Considerable research has been done on Critical Incident Stress Debriefing. The results have been very mixed. In a meta-analysis of 29 studies which met the criteria of CISD within one month of the trauma, involved only one session of CISD, and utilized a widely accepted clinical outcome measure, it was found that CISD resulted in a small effect size in reduction of PTSD symptoms. The control group resulted in a medium reduction in symptoms, and the non-CISD group resulted in a medium to large reduction in the severity of PTSD symptoms (Van Emmerik, Kamphuis, Hulsbosch, & Emmelkamp, 2002). Others have found that trauma survivors generally are satisfied with the services that they receive, but there is little evidence that the intervention prevents the development of trauma related symptoms (Bisson, McFarlane, & Rose, 2000). It has been argued than many studies are fraught with procedural problems including lack of randomized controlled trials (Gray & Litz, 2005).

Exposure.

Exposure therapy was "developed to target the mechanisms thought to underlie persistent, pathological anxiety…exposure therapy comprises a set of techniques designed to help patients confront their feared objects, situations, memories, and images."(Hembree & Foa, 2003). In typical exposure treatment, subjects are asked to imagine exposure to experience for 60 minutes during session. They are asked to close their eyes and tell the story in the present tense while remembering the event in as much detail as possible. They are to remember their thoughts, and feelings as they were at the time. These sessions would be recorded and the subject would be given a copy to take

home. They are asked to listen to the recording once a day. Various coping techniques are taught to manage the anxiety that is created during these experiences. Habituation to the thoughts and feelings is also then experienced with repeated exposure to the event with a trusted therapist.

In a study of 96 assault victims with chronic PTSD, Foa et al.(1999) found that exposure therapy out performed stress inoculation therapy as well as a combination of exposure therapy and stress inoculation therapy (treatment focused on teaching coping skills). While none of the control groups diagnostic status changed, 60% of the exposure therapy group's diagnostic status changed, 42% of the stress inoculation training changed, and 40% of the combination exposure and SIT group changed. It was hypothesized that while SIT may give transient relief of anxiety and symptoms, it is the exposure that provides long term emotional processing of the event. In a similar study, Foa & Rauch (2004) examined the use of exposure therapy with and without cognitive restructuring. While both groups showed significant improvement and changes in cognitions, the addition of cognitive restructuring treatment did not improve the outcomes over the prolonged exposure treatment alone. A follow up study the following year yielded similar results (Foa et al. 2005).

Narrative

With research on trauma responses coming from a variety of sources more and more attention is being placed on the clients "story". In researching effective treatment Van Minnen, Wessel, Dijkstra, & Roelofs (2002) found that successful trauma therapy increases the organization of traumatic memory which becomes a more coherent narrative. Though not finding significant results, one of the challenges was the fact that

all subjects improved during therapy, making it difficult to differentiate the effects of treatments.

In a study of 20 subjects, their specific narratives were compared from beginning to end to determine if specific changes could be detected (Minnen, Wessel, Kijkstra, & Roelofs, 2002). It was found that all participants showed reduction in disorganized thoughts. While participating, those subjects who showed the greatest improvement also showed the greatest reduction in disorganization.

Judith Herman (1997) in talking about the healing process states, "after many repetitions, the moment comes when the telling of the trauma story no longer arouses quite such intense feelings. It has become a part of the survivor's experience, but only one part of it… The story is a memory like other memories, and it begins to fade as other memories do. Her grief, too, begins to lose its vividness. It occurs to the survivor that perhaps the trauma is not the most important, or even the most interesting part of her life story." This has opened the door to other interventions involving the telling of one's story.

PTSD Treatment and Expressive Writing

Researchers have begun to examine the overlap between expressive writing research and treatment for PTSD. In a study examining post traumatic growth and expressive writing Smyth, Hockemeyer, & Tulloch (2008) had participants write for 20 minutes during three writing sessions with a 15 minute break in between. Their instructions asked subjects to identify the traumatic event in the first writing sample, tell a story in the second writing session, and to examine the rationality of their negative beliefs and retell the story incorporating any insight in the third writing sample. No

change in PTSD diagnosis or symptoms was observed in the experimental group, however, the experimental group reported a greater reduction in tension and anger, a trend towards reduced depression, a significant reduction in cortisol reactivity, and increased hope in new possibilities as measured by the post-traumatic growth inventory. It is worth noting that all writing was done in one day, which hasn't shown as robust results as spacing the writing sessions out over several days or weeks.

Not all research in this area has been shown to support the use of expressive writing for survivors of trauma. Batten et al.(2001) found that in a sample of 61 women participating in 4 days of writing about childhood sexual abuse there was no statistical difference in the outcomes of the groups as measured by the Beck Depression Inventory or the SCL-90-R. Further examination also showed that those in the experimental group did exhibit increases in insight oriented language and a higher use of positive words which has been found to accompany improvement in other samples. Authors suggest some possible reasons for the differing results including trauma specific sampling, unique differences for individuals with childhood sexual abuse including multiple traumas for many individuals, and the possibility that longer exposure might be needed for this group.

In a unique study, Van Zuurenet et al. (1999) qualitatively examined the writings of 63 participants and then examined the 10 subjects that showed the greatest improvement and compared them to those who showed the least improvement. They found 10 factors that they assessed to play a role in improvement. These included things such as motivation, a future directedness, and ability to see a positive effect on them in the long run, an ability to generalize the experience to present day life, regaining a sense of control over one's life, an increase in self-esteem, having an involvement in the

writing, reflecting on avoidance and repression, and shift in emotions, words used, and the length of the text. It remains to be seen whether these features are things that can be directed by the researcher in developing writing instructions, or whether these are the natural outflow of participants that are present.

Expressive Writing

History

Writing about one's experiences isn't a new idea. Progoff (1975) discussed the popularity of journals throughout history and in many different cultures. His view was that journaling used as a simple chronicling of events or even to move someone towards a determined goal were limiting. He viewed journals as capable of being instruments of growth in and of themselves. Initially he used journals as an adjunct to therapy, which has been used by many since. He then worked to use writing as the therapeutic element itself. This included directed writings many times in workshop settings but then moved further to feedback loops which involved reading the objective writings and reacting to them. This eventually became the popularized "Intensive Journal Process." This was a long term process that required considerable dedication and commitment on the part of the participant. Use of writing was taken to a new level of investigation in the early 1990's primarily by James Pennebaker and his colleagues. Pennebaker began investigating the therapeutic value of individuals writing about topics that are deeply personal to them. What is vastly different from past use of writing is that in most studies participants are asked to write for 15-30, minutes once a day for 3-5 days. This is markedly shorter than past uses of writing in therapy and removes much of the feedback cycle that Progoff had encouraged.

New Applications

By as early as 1997 investigators using Pennebaker's general writing paradigm, which asked subjects to writing about a chosen traumatic life event, had found numerous benefits. Pennebaker (1997) highlights these stating that writing about emotional experiences verses writing about superficial events had been associated with a number of improvements including a reduction in physicians' visits, (Greenberg & Stone, 1992; Greenberg, Wortman, & Stone, 1996; Pennebaker & Francis, 1996) as well as specific immune functioning (Greenberg & Stone, 1992; Pennebaker, Kiecolt-Glaser, & Glaser, 1988; Petrie, Booth, & Pennebaker, 1998), reported improvement in mood and indicators of well-being by the participants (Greenberg & Stone, 1992; Pennebaker & Beall, 1986), as well as improvement in Grade point average (Pennebaker, Colder, & Sharp, 1990). This has been extended to writing about the benefits found in life events. It has been found to reduce pain levels for those experiencing lupus or rheumatoid arthritis (Danoff-Burg, Agee, Romanoff, Kremer, & Strosberg, 2006).

Efficacy

Smyth (1998) conducted a meta-analyses of the expressive writing paradigm. In all, 19 studies were examined. Only 13 articles were retained finding that 6 didn't meet the inclusion criteria of 1) containing experimental manipulation of written emotional disclosure, 2) experimental group wrote about traumatic event while control wrote about neutral topics, 3) included some health outcome and 4) each article had to contain statistical information necessary to calculate effect size. Both published and unpublished results were examined in an attempt to avoid the bias of only including published articles which most often would only include significant results. Smyth found an overall

weighted effect size of .47 for the studies. Even when excluding the largest outlier the results were still significant at the .0001 level. It was also found that there was no significant difference between the weighted effects sizes showing consistency of effect across the studies. Individual outcome types were examined within studies included overall outcome, reported health, psychological well-being, physiological functioning, general functioning, and health behavior. Five of the six outcome types were found to be significant with only health behavior not included. This means that overall participants saw approximately a 23% improvement. Smyth describes this as comparable to effect sizes seen when examining other psychological, behavioral, or educational treatments. There are several points worth noting. Effects sizes were larger when the proportion of men in the sample was larger indicating that writing may be more beneficial for men. Participants did report short term distress as a result of writing and in fact those who showed distress were more likely to show long term improvement. Studies that spaced the writing sessions over a longer period of time showed greater effect sizes, and finally participants who wrote about current trauma were more likely to experience improvement than those who wrote about past trauma.

Another meta-analysis was done by Fisina, Borod, &Lepore (2004). Only 9 studies were included in the analysis. Researchers specifically looked at any differences in outcomes for medically ill versus those that were psychologically ill. They were able to determine that again expressive writing was able to significantly improve health benefits for subjects. The results were more "modest," however, than the Smyth results. They were unable to find significance for individuals suffering from psychological illness. This included subjects with PTSD, psychiatric inmates, and severely

depressed/suicidal individuals. They were able to determine improved health outcomes for depression, mood, anxiety, and sleep quality. It was pointed out that some studies were quite small. It is also possible that as research expands, the bounds of expressive writing's usefulness are beginning to show. It is also possible that adjustment to the initial boundaries will also need to be adapted to psychological populations.

Another Meta-analysis done by Frattaroli (2006) included 146 studies speaking to the increase in expressive writing research. While increasing the number of studies and obviously the number of participants, she showed a much smaller overall effect size at 0.075. While disappointed, this includes many more unpublished studies and Frattaroli points out that this is an intervention that costs nothing to administer. Many of the previous beliefs about expressive writing were also again confirmed including increased effect sizes when the number of writing sessions was increased, lengthened (i.e. at least 20 minutes, spaced out by time, and includes specific instructions.) She goes on to point out that if the "optimal conditions are examined (high dosage, privacy during sessions, specific disclosure instruction), the average effect size of those eight studies was .200."

This all leads to acceleration in the study of the expressive writing paradigm. Several factors have been cited as to the increased interest in expressive writing research. These have included the successful application of the expressive writing techniques to a wide variety of issues with dramatic success. The low cost of using expressive writing, as well as the fact that writing provides a way for individuals to communicate difficult experiences without many of the traditional barriers (Lepore & Smyth, 2002).

Assessing the literature at the time and aided by new software making it possible to assess the type of writing that was being done, Pennebaker reported "several linguistic

factors that reliably predicted improved health. First, the more individuals used positive emotion words the better their subsequent health. Second, a moderate number of negative emotion words predicted health. Both very high and very low levels of negative emotion words correlated with poorer health. Third, and most important, an increase in both causal and insight words over the course of writing was strongly associated with improved health" (Pennebaker, 1997).

Contradictory Finding

Not all replication studies have been successful. Kloss&Lisman (2002), while testing whether writing about positive experiences would also produce improved health outcomes, failed to replicate previous findings while writing about traumatic events. No differences in health center visits were found. While instructions allowed for writing about the same traumatic event over the three days of writing, or different trauma events this was not believed to be a factor given post hoc tests showing no significant differences between those who wrote about a single event verses those who wrote about separate experiences. There is no data to determine how recent the events were and also no means to determine the extent of the trauma for participants, which may be a factor given the extent of trauma having been a significant factor in other studies when examining the benefits of expressive writing.

Theoretical Explanations of Expressive Writing Paradigm

Inhibition

One of the first to offer an explanation of the inner workings of the written disclosure paradigm was Pennebaker. He proposed that not disclosing was a form of inhibition which required psychological energy to maintain. He drew on the inhibition

literature of the time describing the maintenance of inhibition as a low level stressor activating the autonomic and central nervous systems (Pennebaker, 1997). One study designed to test this point asked participants to try and suppress thoughts of a disturbing event after having written about it. He found that thought suppression appeared to lead to lower total lymphocytes levels in the blood of participants. This gave some credence to the theory (Petrie et al., 1998). He points out that this explanation hasn't really held up to scrutiny. He went on to discuss the work of Greenberg and Stone (1992) where they found that participants experienced similar results whether they wrote about previously disclosed traumas or those that had not been previously disclosed. He further began to examine the content of the writing finding similarities in those who have benefited the most. He described evidence that the cohesion of the story or how a narrative is assimilated into ones experiences as an area of inquiry.

Narrative

Another proposed explanation was the need for narrative. Pennebaker (2000) describes humans search for meaning and an understanding of the world around us. He further describes how major events prove difficult to comprehend. Putting the event into a story simplifies it and provides a means for the mind to understand it better. Graybeal, Sexton & Pennebaker (2002), in an attempt to determine if good story telling shows better outcomes in terms of both health and personality variables, asked participants to write about an emotional and non-emotional event which was judged as to the quality of the story. No connection between quality of story and health outcomes were found. It is worth noting that participants were not writing about traumatic experiences as in many of the traditional expressive writing studies. Smyth, True, & Souto (2001) examined 116

healthy students asking them to writing about a control topic or a traumatic event either in a fragmented style or in a narrative. They found that those who wrote in the fragmented style did not differ from the control group. The narrative group showed improved health and oddly an increase in avoidant thinking. This study only used a single writing session.

Exposure

An exposure explanation has also met with mixed results. Kloss and Lisman (2002) proposed a strict exposure based explanation for the benefits of expressive writing. Using a control and two experimental groups, one writing about trauma and the other writing about positive emotion, they hypothesized that participants would show increased distress during exposure, however over time it would decrease, and secondly that participants would show improved health over time once disclosure had happened. They tested for improved health outcomes through health center visits as well as health questionnaires, examination of state and trait anxiety, as well as use of the Beck Depression Inventory. Their study failed to show either improved health or psychological outcomes. In addition anxiety ratings did not diminish as predicted over the course of the days of writings as would be expected from habituation from exposure.

Other studies have shown different results, Sloan & Marx (2004) examined 49 women with PTSD symptoms. They found that not only did the experimental group show significant improvement in PTSD as measured by the PDS as well as improvement in depression symptoms as measured by the Beck Depression Inventory, but that the initial reactivity was associated with a greater reduction in symptomology. Reactivity was measured both as a self report as well as by analyzing salivary cortisol. While

finding significant results for PTSD and depression reduction they examined clinical significance and determined that only reduction of depression symptoms was clinically significant.

Sloan, Marx, & Epstein (2005) used two experimental groups asking 79 subjects to write about either the same trauma in each of their writing samples or differing trauma experiences in three 20 minute writing sessions. Subjects were matched for extent of traumatization as well as balanced for gender. They used the Posttraumatic Stress Diagnostic Scale, the Beck Depression Inventory – II, the Pennebaker Inventory of Limbic Languidness, as well as salivary cortisol levels to measure outcomes. They found that participants who wrote about the same experiences reported significant reduction in PTSD symptomology as well as reduction in depression and a reduction in physical health related complaints. One of the more surprising results was that the condition that wrote about different traumas didn't show significant differences from the control condition.

In examining the underlying processes, Smyth & Pennebaker (2008) acknowledge that there are most likely multiple explanations interacting. They point that real world settings with real people are being examined. This has only been confounded by the fact that expressive writing has been expanded far beyond the original studies primarily done with relatively healthy college students talking about their perceived most traumatic experience, to the boundaries being tested currently with individuals facing terminal illness, life imprisonment, and life threatening situations.

Writing Paradigm and Mental Health

There have been conflicted findings as to the benefits of expressive writing for individuals with PTSD. Gidron et al (1996) found disclosure to have a negative effect on individuals with PTSD. Pennebaker and Seagal (1999) hypothesized that this was a result of an impaired ability to organize the trauma due to impaired cognitive processing. Lumley, Tojek, &Macklem (2002) hypothesize that this might be a result of alexithymic symptoms, stating the subjects with PTSD often also have alexithymia. They move on however to describe subjects who are experiencing high levels of intrusive thoughts as those who benefit the most from expressive writing. Intrusive thoughts are also a hallmark of PTSD. Studies cited however were with college students who were experiencing a breakup or stress about an exam and therefore not even approaching the level of distress found in PTSD (Lepore, 1997; Lepore & Greenberg, 2002). Lumley, Tojek and & Macklem (2002) reference Kennedy-Moore and Watson's (1999) model explaining the process between the presentation of an emotion-eliciting stimulus and the expression of emotion. The model proposes the progression from 1.Prereflective reaction, 2.Conscious perception of response, 3.Labeling and interpretation of response, 4.Evaluation of response as acceptable, to 5.Perceived social context for expression. While true aleximthymics may not benefit from expressive writing, many of the benefits of expressive writing seem to directly target those who might be temporarily stuck at one of Kennedy-Moores & Watson's early stages due to a traumatic event. Lumley, Tojeck and Macklem (2002) also suggest that possibly providing more structure to writing assignments could help individuals who have difficulty expressing their feelings and that adding more writing sessions to the typical expressive writing paradigm might also be beneficial.

In addition, while examining whether narrative development was necessary for reduction of intrusive thoughts, Smyth, True, & Souto (2001) found that a one time writing task actually increased the level of intrusion for participants in the narrative condition when follow up was done at 5 weeks. This was a significant difference from the other experimental condition where participants were asked to write in a fragmented style, though participants in the narrative condition did show improvement in health outcomes and the fragmented writing condition did not. This study only asked participants to write on one occasion for 20 minutes. Smyth, True, & Souto also point out that this is one of the first times that it has been shown that experimentally manipulating the narrative used in writing produces a different response. Previous studies have shown that different writing styles do produce different results but it has been the natural inclination of the writers that has produced that result. The writers hypothesize that the writing may only serve to sensitize participants and not allow them the opportunity to habituate to the traumatic memory. This would be consistent with much research on PTSD treatments.

Schoutrop et al. (2002) found significant improvement in PTSD symptoms of reexperiencing and avoidance (hyperarousal was not assessed) as well as psychological functioning (depression and hostility) after asking participants to write 5 times for 45 minutes about a traumatic event. While in contradiction to Smyth, True, and Souto's findings, it is worth noting that participants were involved in writing for a longer time, over a longer period of time, and follow up was done slightly later at 6 weeks. Also of importance was their finding that "none [participants] reported any difficulty with thoughts or emotions raised by the writing task."

Bradley &Folingstad (2003) in a pilot study used expressive writing as an adjunct to [Dialectical Behavior Therapy] DBT skills training encouraging participants to write about their lives as a "whole story," specifically asking them to make connections between the past and their current feelings. While not intended as a treatment for PTSD, their treatment did reduce symptoms on the TSI anxious arousal subscale as well as the dissociation and intrusive experience subscales. It also reduced depression symptoms.

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