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The impact of written emotional expression on depressive symptoms and working memory capacity in Iranian students with high depressive symptoms

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Abstract

The main aim of this study was to investigate the effect of written emotional disclosure on depression and working memory capacity through the students with high depressive symptoms. Using screening sampling method 33 (4 male and 29 female) students in Teacher Training University were selected, and were categorized randomly into two experimental and control groups. The instruments were Beck Depression Inventory (BDI) (Beck, 1961), clinical interview and Working Memory Index (WMI) (Wechsler, 1997). The results indicated that: written emotional expression reduces the depressive symptoms and increases working memory capacity, and these results main tend in 6 mounted follow up. Despite for short terms negative consequences, emotional disclosure had long term positive consequences.

Keywords: written emotional expression, depression, working memory capacity

1. Introduction

Pennebaker (1982-1997), leader of research in emotional disclosure, introduced written emotional expression. Written emotional expression, which is well known as the “writing paradigm” in different sources (Milkavich & al, 2005; Kacewicz, Slatcher, Pennebaker 2007) was examined for the first time by Pennebaker and Sandra Beall in 1983. The standard examination way of writing includes placing the subjects randomly in two or more groups. All of the subjects are asked to write about the determined subject during two to five continuous or discontinuous days and for 15 to 30 minutes per day. This test normally is done in a lab and without any feedback. Members of the

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experimental group(s) express their emotional experiences and members of the control group usually write about one normal and not emotional subject, such as how they spend their holidays (Pennebaker, 2007).

Pennebaker and his co-workers (for example: Pennebaker, 1997a; Petrie, Booth & Pennebaker, 1998; Pennebaker & Seagal, 1999; Slatcher & Pennebaker, 2007; Kacewicz, Saltcher & Pennebaker, 2007) motion two main theories about how this method works: one is inhibition theory, which explains the negative role of inhibition in occupying psychological–physical capacities and the desired consequences of expression against inhibition. Theoretically, emotional disclosure decreases stress and physical and then psychological problems by breaking the inhibition undesired process. The second theory is called cognitive changes theory, and expressing emotions by words and talking about experiences results in reviewing them and changes in organizational and re-absorption methods. Different studies in recent years have emphasized the role of this method or writing in improving psychotic health, improving system of immunologic via increasing T–Helper cell (Pennebaker, Glaser & Glaser, 1988; Petrie, Booth & Pennebaker 1998; Ghorbani, 1999), decreasing physical problems (Smyth, 1998; Campbell & Pennebaker, 2003), reducing disturbing thoughts and indications of depression (Lepore, 1997; Gortner, Rude & Pennebaker, 2006), as well as increasing working memory capacity (Klein & Boals, 2001; Kniele, 2004).

The research results of Kniele (2004) showed that disturbing thoughts are important regulators of stress and working memory capacity and emotional expression increases this capacity by decreasing these disturbing thoughts.

2. Method

This research classified quantities in the nature of gathered data standpoint, is applied in purpose standpoint and is experimental as a method test based on the nature of its data, purpose and method. The plan of this research is the experimental plan of pre-test and post-test with the control group.

2.1. sample

The sample group of this study is 5,200 male and female undergraduate students of the Teacher Training University in the academic year of 2006-2007 who were studying in the four departments of Science, Humanities, Computer Science and Mathematical Science. As a group of 15 persons is an acceptable sample for experimental studies, in this test, taking into account the probable decline of the samples of students, 42 students who had gained scores above average (SD-4/7, M-19) in BDI 1 were selected by using the screening sampling method and were assigned to two groups, experimental and control. The average age of the sample was 21.4 years.

2.2. procedure

As the method of study, first the Beck Depression Inventory was implemented in an expanded area and 56 students who had got high scores in this inventory were invited for interview, cooperation and basic explanation. This part was individual and 42 students out of 56 invited announced their attendance for cooperation; these 42 students were randomly divided in two groups, experimental and control, although later 9 students lapsed in their pursuit of the study and finally the sample was a group of 33 students (16 in the experimental and 17 in the control groups).

2.3. Data collection instrument

Beck Depression Inventory: This inventory has been designed based on clinical evidence of depression in 1961 by Beck and includes 21 sentence groups in which each group has four options. Among 21 articles, 2 refer to mode, 11 to cognitive problems, 2 to obvious behaviors, 5 articles to physical signals and 1 article to inter-individual relationships.

Working Memory Index: This scale is one of the sub-scales in the Wechsler Memory Scale – third edition, and includes 2 article scales by itself: Letter–Number Sequencing, which is a phonetic task in which auditory working memory is measured, and Spatial Span, which is a sight task and examines the working memory (Wechsler & colleague, 1997). This index is performed individually.
3. Results

Descriptive data related to the scores of the samples from the experimental and control groups in pre-test and post-test are shown in table 1.

<table>
<thead>
<tr>
<th>Group (Test)</th>
<th>Numbers</th>
<th>Parameter</th>
<th>Test Stage</th>
<th>Average</th>
<th>Standard diviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td></td>
<td></td>
<td>Pre-test</td>
<td>19/75</td>
<td>5/70</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Post-test</td>
<td>11/56</td>
<td>5/52</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pursuit</td>
<td>11/5</td>
<td>4/4</td>
</tr>
<tr>
<td>Working Memory</td>
<td></td>
<td></td>
<td>Pre-test</td>
<td>26/31</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Post-test</td>
<td>31/38</td>
<td>3/32</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pursuit</td>
<td>31/31</td>
<td>2/58</td>
</tr>
</tbody>
</table>

Repeated measures analysis of variance was performed to understand whether this intermediation had caused any changes in the Beck Depression Inventory in the pre-test and pursuit stages or not. Inferential findings in this section are shown in tables 2 and 3, as well as in graphs 1 and 2, and based on different studied parameters.

<table>
<thead>
<tr>
<th>Indexes variables</th>
<th>Total squares type III</th>
<th>Degrees of freedom</th>
<th>Average of square</th>
<th>F ratio</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 measurement time</td>
<td>404/91</td>
<td>1/43</td>
<td>283/59</td>
<td>23/70</td>
<td>0/000</td>
</tr>
<tr>
<td>3 measurement time &amp; group</td>
<td>340/66</td>
<td>1/43</td>
<td>283/60</td>
<td>19/94</td>
<td>0/000</td>
</tr>
<tr>
<td>Error</td>
<td>529/50</td>
<td>44/26</td>
<td>96/11</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results of Table 2 show that the process of changes in depression indications in the two groups has significant differences during the time; this means written emotional expression leads to a tangible decline in depression indications compared to writing normal daily experiences.
According to Table 3 it can be observed that the evolution of working memory capacity shows prominent deviation within the two groups; in other words, written emotional expression leads to a tangible increase in working memory capacity in comparison with simple daily writing.

4. Discussion and Conclusion

The study was carried out to analyze the emotional and cognition consequences of written emotional expression. To do so, the study was focused on depression as one of the prevailing emotional disorders, as well as working memory as one of the significant cognition abilities.

In conclusion, the research findings related to the positive consequences of emotional release can be summarized into three general categories. First, findings which have shown that it is possible to teach emotional release as an adapted opposition method to people (for instance, Spera et al, 1994; Lumely & Provenzano, 2003; Lepore et al 2004; Milkavich et al, 2005). It is believed that usage of writing as an opposition strategy can make people confront the negative experience of life more effectively and prevent the inappropriate physical and mental consequences of these experiences. Another group of researches emphasized the treatment role of emotional release, and has shown its successful application in treating many physical-mental disorders (For example, Borkovec et al, 1995; Stiles, 1995; Petrie, Both and Davison, 1995; Lepore, 1997; Petrie et al, 1998; Ghorbani, 1999; Gordon et al, 2007).

Reference


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