The Study of the Effectiveness of the Regular Desensitization Method on the Exam Stress and its Components in the Students Who Have Learning Disorder in Elementary Grade

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Abstract: Exam stress is a special kind of general stress which includes the phenomenological and physiological and behavioral reactions that is related to the failure fear and a person experiences it in the evaluation situations. When exam stress occurs many cognitive and concentrating processes interfere with the person’s effective operation. In this research the effectiveness of the regular desensitization method on the exam stress and its components in the students who have learning disorder in elementary grade was studied. Statistic population of the study was formed of the whole students who had learning disorder in elementary grade that had recourse to SHIRAZ education center in IRAN and 54 of them that were chosen from the random sampling and assigned in two experimental and control groups formed its samples. The tool used in this study was the Spielberger’s stress exam questionnaire that was an experimental research as pretest-posttest with the control group. In addition to the descriptive statistics’ methods which includes: average and standard deviation, we used comprehensive statistics’ methods like t-test and multi variables variant for data analysis. The results of the data analysis showed that regular desensitization method reduces the exam stress and its components in the experimental group in compare with the witness group.

Key words: Exam stress · Anxiety component · Affectivity component · Regular desensitization

INTERDICTION

Exam stress as a current and important phenomenon has a close relationship with general stress although it has special traits which separate it from general stress. The negative effects of the exam stress on the education advancement is approved in many researches [1]. In childhood we may figure out that the events aren’t always under our control and this belief of disability to compromise the events is a mental preparation for stress. So this mental factor appears to make us susceptible for stress [2]. Individuals are different in the feelings they show in the impendent situations [3]. Morris and Liebert have discussed two separated components, “anxiety” and “affectivity” to express the effects of exam stress: The important part of the exam stress is anxiety component and the activity cognition that is unrelated to the duty which includes: The operation’s anxiety cognition / exam failure’s results/ imagination of bad exams / self-contempt imaginations / examination of one’s ability in compare with the others / negative expectations of the operation and negative soliloquy. The other important part of the exam stress is the affectivity component which indicates to the self-perception emotional excitation, self-determined reactions and physiological reactions like: heart beating, stomach turbulence, crying, headache, trembling and excitement-feeling situation with anger [4] entirely various curing and education methods are used like: relaxation education/education of safety against the stress/education of reading skills/ biofeedback and cognitive-behavioral interference which has different effects on the exam stress although regular desensitization is used just or with the curing techniques more than other cures in the exam stress treatment [5]. The negative relationship of stress and the curriculum average seems that reducing the stress is an important thing in the simplification of the education advancement. cognitive cures are specially suitable for reducing the
duty unrelated and negative thoughts (anxieties) of the
students who have the exam stress disorder whereas
these cures weren’t very successful in reducing the
physiological and emotional reactions unlike the regular
desensitization method [6].

Snyder and Deffenbacher compared the
effectiveness of the indolence methods with the
regular desensitization in the students’ treatment. The
results showed that two experimental groups had less
exam stress than the control group (p=0.01) but just the
exam stress’s regular desensitization group showed more
simplification.

Students groups that were cured were less worried
and their abilities were better than the control group in the
stress situations [7].

Ricketts and Gallovay discovered that regular
desensitization method in curing the affectivity
component and cognitive treatment method is effective in
stress reduction [8].

Schneider and Nevid achieved the result that regular
desensitization and the education of safety against stress
are effective in reduction of the exam stress by
researching on the students who had math exam stress.

Kennedy & Doepke used multidimensional cures
(relaxation education, regular desensitization and
cognitive-behavioral interferences) for the students who
had the exam stress disorder.

Results showed that multilateral cure has a reduction
in the exam stress, their education operation also
increased and their anxiety attribute reduced significantly
after curing [10].

Gonzalez recognized in his research that regular
desensitization and relaxation education reduce the
affectivity component although these methods didn’t
have important effects on the stress reduction [11].

The previous researches have shown that the regular
desensitization method can reduce the exam stress and
raise the mental health of the students and their education
operation as a result. So in this research the researcher is
looking for the answer to the question: if the regular
desensitization method can reduce the boys’ exam stress
in elementary grade. These hypotheses.

Were examined by looking at the target of this
research and its history: 1) the regular desensitization
method can reduce the exam stress in the boy students of
the experimental group in compare with the control group.
1-2- the regular desensitization method reduces the
anxiety component of the exam stress in the students of
the experimental group in compare with the control group.

Research Method: The statistic population of the
research was made of 200 students who had learning
disorder in the elementary grade that had recourse to
SHIRAZ education center. The statistic sample of the
research was made of 54 of the mentioned population that
were chosen by the random simple sampling based on
Kerjcie and Morgan’s chart (17), then the patient students
were separated into 2 groups (experimental and control)
that each group had 27 members.

I should explain that the chosen students as patients
were whom their grades were one standard deviation more
than the whole sample’s average in Spielberger’s exam
stress test.

Measurements: In this research we used Spielberger’s
exam stress questionnaire. The exam stress questionnaire
was made by Spielberger [12]. This questionnaire has 20
clauses that describe the reactions before, during and
after the exam. The exam stress questionnaire includes 2
subtests: Anxiety (10 clauses) and affectivity (10 clauses)
that scales the individual differences between variable
persons in the exam stress. The exam stress is a self-
reporting tool and each person answers to each clause by
these 4 options: (never), (seldom), (sometimes) and
(frequently). These 4 options are numbered as 1,2,3,4 and
if someone gets the high score means that he has a high
exam stress. The minimum and maximum grades in this test
are 20 and 80.

Reliability: The Cronbach, $\alpha$ coefficient in this test were
over 0.92 in girls and boys samples. Reliability coefficient
of retesting was reported 0.80 after one month and 3
weeks [13]. Anton and colleagues reported the Cronbach,
$\alpha$ coefficient of this questionnaire between 0.92 to 0.97
in the students [14]. In this research “$\alpha$” and split half
methods for determination of the exam stress
questionnaire coefficients were 0.96, 0.96 for whole the
questionnaire (Chart 1 shows the coefficients of the
questionnaire in this research)

As it has shown in Chart 1 the exam stress
questionnaire coefficient and its subscales are between
0.90 and 0.96.
Chart 1: The exam stress coefficients of the questionnaire in this research

<table>
<thead>
<tr>
<th>The statistic standard’s scale</th>
<th>Cronbach’s Coefficient Alpha(α)</th>
<th>Split-half method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety component</td>
<td>.91</td>
<td>.90</td>
</tr>
<tr>
<td>Affectivity component</td>
<td>.95</td>
<td>.94</td>
</tr>
<tr>
<td>Whole (questionnaire) exam</td>
<td>.96</td>
<td>.96</td>
</tr>
</tbody>
</table>

Validity: Spielberger’s questionnaire has 0.82 and 0.83 correlations with Sarason and Stoops exam stress scale in boys and girls. The correlation of the anxiety subscale of the questionnaire with Morris and Libert’s anxiety subscale has been reported 0.73 and 0.69 in boys and girls. It is also a relationship of 0.77 and 0.85 between the affectivity subscale in this questionnaire and Morris and Libert’s in boys and girls. The correlation of the entire Spielberger’s questionnaire with his state-trait anxiety questionnaire has been reported 0.86 and 0.77 in boys and girls. These coefficients of the good and satisfactory are validity expression of this questionnaire [12]. In this research regular desensitization method also was done in 8 sessions twice a week and each lasted for 1 hour and 30 minutes and the details of the treatment sections are shortly consist of the things below:

The sessions of the regular desensitization method stages consist of:

Session 1: Making primary connection, explanation, introduction of the group members to each other and general expression of the treatment and its stages for the clientele. Providing an appropriate and comfortable environment for (relaxation).

Session 2: Education of muscular relaxation

- Muscular education in 14 group of muscles: (hand and wrist, for arms, head, eye, mouth, lip, nose, neck, stomach, hips, leg, fingers).

Session 3:

- Muscular education in 6 groups of muscles: (the dominant arm, the non-dominant arm, face, neck, stomach and foot).

Session 4:

- Muscular education in 3 groups of muscles: (arms, body center and feet).
- Reminding and repeating the 3 muscular groups

4. Presenting the classification of the exam stress.

Session 5:

- Presenting five stimulus of the exam stress classification.

Session 6:

- Presenting ten stimulus of the exam stress classification.

Session 7:

- Presenting 15 stimulus of the exam stress classification.
- Presenting 18 stimulus of the exam stress classification and perform regular desensitization completely.

Research Results

Descriptive Results: Descriptive results of this research include statistic indexes like average and standard deviation for all the studied variables which are shown in Chart 2.

As you can see in Chart 2 the exam stress average doesn’t have much difference in experimental groups (69/67) and control groups (68/57) in the pretest but the average is 33/24 for the experimental group and 72/48 for the control group in the posttest. In addition to this, as the Chart 2 presents, the average of subjects in experimental and control group doesn’t have much difference in the pretest but the difference becomes more between the two groups in the posttest.

The Results of Hypothesis Research Presented in Charts 3 to 5: As you can see in Chart 3 the observed T is 15/130 that is more than critical t which is 1/68 and as result the research theory is confirmed which means that the regular desensitization method can reduces the stress in the girl students stress in compare with the control group.

As it was mentioned before the exam stress questionnaire has two subscales (anxiety component and affectivity component) to study the condition of the subjects of the two groups for these components the Manova analysis was done on the averages of the two groups that the result are shown in Chart 4 and 5.
As it is shown in Chart 4 the significant level of all the tests expresses that there is a significant difference between the students of the experimental and control group at least in one of the dependent variables (exam stress components). To figure out the difference the results of the effects-test of the subjects is represented in Chart 5.

As you see in Chart 5 there is a meaningful difference between the students of the experimental and witness group in the anxiety (the first component of the exam stress). In the other words the regular desensitization method, according to the results in Chart 2, has reduced the experimental group’s stress. There is a meaningful difference between the students of the experimental and witness group in the affectivity (the second component of the exam stress). In the other words, the regular desensitization method, according to the results in Chart 2, has reduced the experimental group’s affectivity.

**Dictation:** The results of the data analysis of this research showed that the regular desensitization method has reduced the anxiety and affectivity components in boy students who had learning disorder.

The discoveries of this research is coordinated with the results of the other researches which were done on the efficiency of the regular desensitization method in exam stress and its components and confirmed them like Snyder and Deffenbacher (7), Snyder and Nevid (9), Gonzales (11)’s researches. The regular desensitization method is one the most common and easiest behavioral method, according to the results in Chart 2, has reduced the experimental group’s affectivity.

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**Chart 2:** Average and standard deviation of the exam stress score and its subscales (Anxiety component and affectivity component) for experimental and control group in pretest and posttest:

<table>
<thead>
<tr>
<th>n</th>
<th>Standard deviation</th>
<th>Average</th>
<th>Group statistic index</th>
<th>Stage</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td>2/67</td>
<td>68/57</td>
<td>control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>7/39</td>
<td>33/24</td>
<td>experimental</td>
<td>Posttest</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>3/38</td>
<td>72/48</td>
<td>control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>2/23</td>
<td>33/90</td>
<td>experimental</td>
<td>Pretest</td>
<td>Anxiety component</td>
</tr>
<tr>
<td>27</td>
<td>1/45</td>
<td>33/71</td>
<td>control</td>
<td>Posttest</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>4/93</td>
<td>17/00</td>
<td>experimental</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>1/76</td>
<td>36/14</td>
<td>control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>2/30</td>
<td>35/76</td>
<td>experimental</td>
<td>Pretest</td>
<td>Affectivity component</td>
</tr>
<tr>
<td>27</td>
<td>2/47</td>
<td>34/86</td>
<td>control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>3/98</td>
<td>16/24</td>
<td>experimental</td>
<td>Posttest</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>2/15</td>
<td>36/33</td>
<td>control</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Chart 3:** Frequency, freedom degree, observed t in experimental and control group:

<table>
<thead>
<tr>
<th>T</th>
<th>p</th>
<th>DF</th>
<th>n</th>
<th>Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>0/05</td>
<td>52</td>
<td>27</td>
<td>Experimental group</td>
</tr>
<tr>
<td>27</td>
<td></td>
<td></td>
<td>27</td>
<td>Control group</td>
</tr>
</tbody>
</table>

**Chart 4:** Multi variables variant (Manova) results on the grades of the difference (pretest _ posttest) of the exam stress’s components of the experimental and control groups.

<table>
<thead>
<tr>
<th>Significant level(p)</th>
<th>f</th>
<th>DF error</th>
<th>DF Hypothesis</th>
<th>Amount</th>
<th>Name of the test</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0001</td>
<td>181.27</td>
<td>39</td>
<td>2</td>
<td>0.903</td>
<td>Pilai’s Effect test</td>
</tr>
<tr>
<td>0.0001</td>
<td>181.27</td>
<td>39</td>
<td>2</td>
<td>0.997</td>
<td>Wilks’s Lambda test</td>
</tr>
<tr>
<td>0.0001</td>
<td>181.27</td>
<td>39</td>
<td>2</td>
<td>9.29</td>
<td>Hetling’s effect test</td>
</tr>
<tr>
<td>0.0001</td>
<td>181.27</td>
<td>39</td>
<td>2</td>
<td>9.29</td>
<td>Roy’s largest residue test</td>
</tr>
</tbody>
</table>

**Chart 5:** Results of the effects of the subjects of the (pretest - posttest) difference numbers of the experimental and control groups’ exam stress component.

<table>
<thead>
<tr>
<th>Significant level (p)</th>
<th>F</th>
<th>Squares average</th>
<th>DF</th>
<th>Squares’ sum</th>
<th>Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0001</td>
<td>269.29</td>
<td>3924.66</td>
<td>1</td>
<td>3924.66</td>
<td>Anxiety (The first component of the exam stress)</td>
</tr>
<tr>
<td>0.0001</td>
<td>236.71</td>
<td>4630.50</td>
<td>1</td>
<td>4630.50</td>
<td>Affectivity (The second component of the exam stress)</td>
</tr>
</tbody>
</table>
for conditioning to the past stressful stimulus. In this method first a person learns to relax himself intentionally by tenseness and salvation in his different muscles groups and then confront with the exam stress levels from low to high slowly.

Nowadays only this method is used in the exam stress studies. This method can avoid the disarranging physiological effects to appear. Sap and colleagues believe that any cures that can be effective on the exam stress reduction can also affect the anxiety and affectivity components. Because the exciting –physiological and recognition components have effects on each other. (15)

Totally there are important evidences about the effect of the regular desensitization method on the reduction of the exam stress in the patients who have the learning disorder.

CONCLUSIONS

The results of this research generally express that the regular desensitization method is an effective and precautionary strategy in the reduction of the exam stress and its components and enables the student to reduce his stress in exam situation.

Useful Suggestions:

- We suggest that epidemiology of the exam stress will be done.
- As we know the effects and the efficiency of the psychological curing methods on the exam stress reduction, making general and preventing plans and useful performance of them in schools by the education center for propagation and reflection of the methods and psychological curing education and promotion of the student's society mental health is suggested.
- The method of the exam stress confrontation should teach to the teachers and councilors and recommend them to help the students before and during the exams.

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REFERENCES

