The Effectiveness of Problem-Solving Skills Training In The Light of Meichenbaum’s Cognitive-Behavioral Method: The Case of Male Students’ Adjustment to Boarding and Ordinary Schools

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Abstract

The aim of the present study is to compare the effect of problem solving skills training on high school students’ adjustment in boarding and ordinary schools. Boy students studying at boarding and ordinary high schools in Bakharz County make up the population of the study (N=1112). First, two boarding and two ordinary schools were randomly chosen; cluster random sampling was also used to determine a sample of students from the schools (N=291) based on the Krejcie and Morgan’s Table (1970) to answer the Adjustment Inventory for School Students (AISS) proposed by Sinha and Singh (1993). Second, 30 students from boarding schools and 30 ones from ordinary schools with the highest adjustment score were chosen and then randomly divided into two experiment groups (i.e. boarding and ordinary) and two control groups (each group, N = 15). Afterwards, the experiment group received problem solving skills training based on Meichenbaum’s (2007) method for 8 sessions while the control groups received no training. At the post-test stage, the scores of the four groups were measured again with the same inventory. Results showed that problem solving training based on Meichenbaum’s method helps improve the general adjustment along with social, emotional, and educational aspects of adjustment. Meanwhile, no difference was found between the effect of the training on the students’ general, social, and educational adjustment in the boarding and ordinary schools, whereas there was a significant difference in terms of the emotional adjustment between the boarding and ordinary schools.

Keywords: Problem-solving training, social adjustment, emotional adjustment, educational adjustment, boarding schools, ordinary schools.
Introduction

Adjustment refers to engagement with others while dealing with the environment effectively. According to Lazarus and Folkman (1984), two processes can be seen in adjustment at the same time: compliance with the situations, and changing the situation in order to be matched with one’s needs (as cited in Avison, Aneshensel, Schieman, & Wheaton, 2010). According to Sinha & Sing (1993, as cited in Karami, 2001) adjustment is emotional stability and temerity in social relations as well as interest in education and school, which can be observed as emotional, social, and educational adjustment, respectively. The educational adjustment is defined as positive attitudes towards the established academic goals, the effectiveness of the efforts to reach the academic goals, and having positive viewpoints towards the learning environment. The emotional adjustment is considered as a mechanism by which one can achieve the emotional stability. The social adjustment is the mechanisms by which one can join a certain group; however, adolescence is one of the important stages in life associated with significant physiological, psychological, and social changes that affect the teens’ adjustment greatly (Kazemi, Fahimi, Mojtabaee, & Mahdavi, 2013). Therefore, it is of great importance to teenagers to find appropriate adjustment strategies, otherwise there would be harmful consequences, including abnormality, insecurity, personality and emotional problems, behavioral disorders, and delinquency (Nina, Sylvie, & Kimberly, 2012).

Given that some teenagers live in boarding houses, the studies have shown that they live in an undesirable conditions and are faced with different challenges, and environmental, physical, and mental problems as such (see Ranjbar, Rasouli, & Sanaee, 2014). Goffman (1961, as cited in Thurber, 1999) believes that the teenagers living in the boarding houses are more likely to deal with depression, sense of nostalgia, and separation anxiety. According to Heppner and Kraskov (1987, as cited in Larson, Potenza, Wensted, & Sailors, 1995), problem-solving is a set of behavioral, cognitive, and emotional responses adopted in order to be adjusted with inner and outer challenges. D’Zurilla and Goldfrid (2002) believe that problem-solving refers to a process by which one is going to determine, find out, or make the effective and adjusting strategies in order to solve everyday problems. Meichenbaum (2007) invented stress inoculation training method, which is at the level of psychological and inoculation behavior of biological level. It is beyond a way to train how to deal with the environment. In fact, this plan makes the patients ready for interference, and stimulate them to change themselves; it studies some issues, including resistance and reversal (see Hassanzade, Tarkhan, & Taqizade, 2013).

Stress inoculation training includes different techniques such as didactic teaching, Socratic discussion, cognitive restructuring, problem solving, relaxation, visual and behavioral imagination, self-monitoring, self-instruction, self-reinforcement, and some actions to change the environment; it is planned to train and develop the inoculation skills. It not only solves the individual’s current problems but it also considers his/her future problems, and affects them as such (Meichenbaum, 2007).

Generally, problem-solving is one of the most effective interventions, especially for a teenager since it can be applied for a variety of problems in adolescence, including exam stress (Davis & Lysaker, 2005; Izadifar & Sepasi Ashtiyani, 2010; Liger, 2003), motivational problems (Hegel, Barret, & Oxman, 2000; Umemoto & Sano, 1996), depression (Shamsikhani, Farmohini Farahani, Shamsikhani, & Sobhani, 2014), stress (Akbari Zardkhane, factors (Azin & Musavi, 2014), family factors (Ahghar, 2014), problem-solving ability (Bazl, 2004), self-esteem (Falsafinejad, 1995; Tuzandez Jani, Sedighi, Nejat, & Kamal Pour, 2007; Vazifeshehias, 2001), social skills (Habibi, 2003), academic achievement (Eidiyan, 2006), and emotional intelligence (Feraqani, 2001). One of the treatments concerned greatly over the last three decades is cognitive-behavioral treatment (O’Donohue & Fisher, 2008). It includes a variety of techniques such as relaxation, cognitive restructuring, problem-solving, self-learning, self-regulation, etc. (Raeesi, Amiri, & Moulavi, 2008). The studies show that cognitive-behavioral treatment has a great impact on improving people’s adjustment (Deraksh, Mashhadi, & Aqamohammdian, 2013; Ghiyasizade, 2013; Hatami, Aqamohammdian, & Abdekhodaei, 2012; Izadifar & Sepasi Ashtiyani, 2010; Raeesi, Amiri, & Moulavi, 2008). In this sense, problem-solving as one type of treatment is used to 1) relieve personal distress; and 2) provide the person with a general coping strategy to solve the personal problems, which is more preventive (Houghton, Sulcus, & Clark, 2006).
Arkham Ghelonei et al., (2014), parent-teen conflicts (Salami, Hosseinpour, & Attari, 2010), aggression (Khal’atbari, Ghorbani shirudi, Tudar, Mobaleghi, & Salehi, 2010), anger management (Vakili, 2007), shyness and withdrawal problems (Ghiyasizade, 2013), grief crisis (Ansburg & Dominowski, 2000). The literature shows that those who use problem solving strategy in dealing with their social problems have a higher level of psychological adjustment than those who do not (Meichenbaum, 2007). The basis of problem-solving is that most trauma and social harm is resulted from the lack of effective coping behaviors or using ineffective coping ones (Tian, Heppner, & Hou, 2014).

Mirmousavi, Zaharakar, and Farrokhi (2008) discuss that training of problem-solving in groups has no impact on improving students’ social and emotional adjustment, but affects educational and general adjustment. Sarbanani, Asadzade, and Sohari (2006) showed that problem-solving can increase general, emotional, and social adjustment in students significantly; however, it has no significant effect on educational adjustment. In a similar vein, Khal’atbari et al. (2010) concluded that problem-solving affects the students’ adjustment. Tafazzoli, Kamal pour, and Rad (2013) likewise showed that group-training of problem-solving has impacts on the students’ social adjustment, whereas Matinnejad and Shahraki (2013) argue that there is no significant correlation between problem-solving and educational development and adjustment.

Hosseini and Motavar (2012) discuss that adjustment among male and female students in boarding schools is less than that among the students in normal schools and that there is no significant difference found between the adjustment made among female and male students. Mikaeeli and Moradi (2014) also found a positive and significant relation between social problem-solving and the students’ educational adjustment.

Denham and Almeida (1987) found a strong correlation between problem-solving and adjustment, and that training such skills leads to increasing adjustment as such. The results of a study conducted by Azadi, Kimiae, and Abbassi (2014) showed that the abilities of problem-solving in the family and rational beliefs can reduce the frequency and severity of problems in the family as well as marital problems. In effect, Sukhodolsky, Golub, and Orban (2004) concluded that problem-solving is an effective method for solving the adjustment problems in children.

While studying the relation between adjustment and interpersonal cognitive problem-solving among the high school students of the first to fifth grade, Richard and Dodge (1982) concluded that interpersonal problem-solving has a significant relationship with one’s ability in adjusting to the environment. Baker and Williams (2004) suggest that different social skills and problem-solving strategies ensure better adjustment among students at school. D’Zurilla and Sheedy (1992) also showed that problem-solving is one of the fundamental capabilities in students, which can determine their social adjustment.

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Methodology

Sampling Design, Measurement Procedures and Data Analysis

As multistage cluster random sampling was used in this study and the assignment was random, this research is of experimental kind run in a pre-test and post-test plan. The population of the study was all male students studying in high schools in Bakhazr (N=1127). First, two boarding schools were randomly selected among which 291 students were selected through cluster random sampling method based on Krejcie and Morgan’s Table (1970) in which the participants, answered Sinha and Singh’s (1993) Adjustment Inventory for School Students (AICSS). Then, 30 students from boarding schools and 30 students from normal schools earning the higher score in the inventory (the highest score shows the more maladjustment) were identified and randomly divided into two experimental groups (the students of normal and boarding schools) and two control groups(each group consists of 15 students). Then, the participants in the experimental groups received the Meichenbaum’s (2007) problem-solving training for 8 sessions while the other group had no training. Finally, all four groups were measured in a post-test using the same inventory. The problem-solving training used in this paper focuses on a cognitive-behavioral method developed by Meichenbaum. The stages of problem-solving training are as follows:

First stage: recognizing and defining the problem
Second stage: studying the causative factors
Third stage: offering the possible solutions
Fourth stage: evaluating the possible solutions
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Fifth stage: implementation and evaluation (Meichenbaum, 2007).

Instrument

Adjustment Inventory for School Students (AISS)
AISS developed by Sinha and Singh (1993) includes 60 questions, which distinguishes the high school students with good adjustment from the students with poor adjustment from three aspects of adjustment: emotional, social, and educational adjustment. The reliability of this instrument with split-half, test-retest, and Richardson 20 are 0.95, 0.93, and 0.94, respectively (Sinha and Singh, 1993, as cited in Saatchi, Kamkari, & Asgarian, 2010). Navidi (2008) measured Cronbach’s Alpha for general adjustment as 0.82, for the subscale of educational adjustment as 0.74, for emotional adjustment as 0.69, and for social adjustment as 0.66. Also, the validity of the test was confirmed by a group of psychologists (Khal’atbari et al., 2010). The questions are yes/no questions and the value of each question ranges between zero and one; zero shows very good adjustment and sixty shows poor adjustment after counting each score. (Sinha & Singh, 1993 as cited in Ghafoori, Aghamohammadian, & Kimiaee, 2011).

Results

As Table 1 shows, most participants are the students studying in vocational fields, and the minimum number of participants belongs to the students studying mathematics with 41.10% and 2.10%, respectively. Furthermore, most students are students studying in the third grade (34.90%), and the minimum number of students was those studying in the fourth grade (i.e. pre-university) (13.70%), 52.70% of the participants are students of normal schools, and finally 47.30% of the participants are students in boarding schools, among whom 29.10% of them have studied in boarding schools in the previous level as well (secondary school) while 70.90% of them have studied in normal elementary schools. The adjustment mean of scores for the students of boarding schools is 22.94 while it is 24.86 for the students of normal schools, showing that maladjustment is seen more among the students of boarding schools than those in normal schools.

Educational maladjustment can be seen more than emotional and social maladjustment in both students of normal and boarding schools. Among different fields, the students studying mathematics show more maladjustment, which is mostly of educational type. Of the different involved grades, the students studying in the second grade have more conflicts (23.31), mostly related to educational maladjustment. Educational maladjustment is seen more than the other types (i.e. social and emotional) in all the grades. The students studying in boarding school at the secondary level are more maladjusted, indicating that the dormitories can make maladjustment among the students. Although the students are adapted with such an environment, they are more maladjusted than those who do not live in the dormitory. Overall, educational maladjustment is seen more than social and emotional maladjustment in the participants under the study.

The results in Table 2 show that the mean in the pre-test of general adjustment for the students of boarding schools is 30.93 while the mean of post-test for them is 25.53, showing a decrease of 5.4 scores and an increase in the adjustment of boarding school students in experimental group. The mean in the pre-test of the normal school students is 31.33 while the mean of post-test for them is 26.73, showing that the score of their maladjustment has decreased as 4.6 scores. The mean in the pre-test of social, emotional and educational adjustment among the boarding school students were 9.26, 10.00, and 11.66, respectively. And the mean in the post-test for them are 8.00, 8.00, and 9.53, respectively. It shows a decrease in their score and an increase at their level of adjustment.

Regarding the normal school students, their scores in the pre-test of social, emotional and educational adjustment are 9.53, 9.53, and 12.26, respectively, and their post-test scores are 8.73, 8.06, and 9.93, respectively. This indicates a decrease in their scores and an increase in their adjustment level. In examining the significance of differences, we used some statistical tests. The results are reported in the following:

Table 1: The Demographic Characteristics of First Sample Based on the Field of Study, Grade, Accommodation and the Previous Accommodation

<table>
<thead>
<tr>
<th>Field</th>
<th>Frequency</th>
<th>Percent</th>
<th>Mean (general adjustment)</th>
<th>Mean (social adjustment)</th>
<th>Mean (emotional adjustment)</th>
<th>Mean (educational adjustment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>77</td>
<td>26.00</td>
<td>22.59</td>
<td>7.75</td>
<td>6.79</td>
<td>8.05</td>
</tr>
<tr>
<td>Mathematics</td>
<td>6</td>
<td>2.10</td>
<td>23.33</td>
<td>6.83</td>
<td>7.16</td>
<td>9.33</td>
</tr>
<tr>
<td>Sciences</td>
<td>67</td>
<td>22.90</td>
<td>22.05</td>
<td>7.20</td>
<td>6.94</td>
<td>7.94</td>
</tr>
<tr>
<td>Humanities</td>
<td>22</td>
<td>7.50</td>
<td>18.27</td>
<td>5.72</td>
<td>5.45</td>
<td>7.04</td>
</tr>
<tr>
<td>Vocational</td>
<td>120</td>
<td>41.10</td>
<td>23.11</td>
<td>7.44</td>
<td>7.33</td>
<td>8.34</td>
</tr>
<tr>
<td>First grade</td>
<td>77</td>
<td>26.40</td>
<td>22.59</td>
<td>7.75</td>
<td>6.79</td>
<td>8.05</td>
</tr>
<tr>
<td>Second Grade</td>
<td>73</td>
<td>25.00</td>
<td>23.34</td>
<td>7.52</td>
<td>7.53</td>
<td>8.26</td>
</tr>
<tr>
<td>Third Grade</td>
<td>102</td>
<td>34.90</td>
<td>22.15</td>
<td>7.02</td>
<td>7.07</td>
<td>8.04</td>
</tr>
</tbody>
</table>

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To control the unwanted/extraneous variables, we may use covariance analysis (ANCOVA) (Sarmad, Bazargan, & Hejazi, 2011). Since this paper used a pre-test and post-test with a control group, it was rational to use descriptive statistics, including mean and standard deviation to analyze the data, and to use covariance analysis for inferential analysis. However, due to failure in fulfilling the assumptions of covariance analyses, we used one-way variance analysis (One-way ANOVA). To determine the differences between the groups, we used the Tukey post hoc test.

### Table 2: Descriptive Indexes of Adjustment Scores of the Students Based on the Groups

<table>
<thead>
<tr>
<th></th>
<th>Groups</th>
<th>Mean</th>
<th>SD</th>
<th>Mean</th>
<th>SD</th>
<th>Mean</th>
<th>SD</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Experimental</td>
<td></td>
<td></td>
<td>Control</td>
<td></td>
<td>Normal</td>
<td></td>
<td>Control</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Boarding schools</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Normal schools</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social adjustment</td>
<td>Pre-test</td>
<td>9.26</td>
<td>3.10</td>
<td>9.46</td>
<td>3.20</td>
<td>9.53</td>
<td>1.92</td>
<td>9.60</td>
<td>1.91</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>8.00</td>
<td>2.26</td>
<td>9.20</td>
<td>2.98</td>
<td>8.06</td>
<td>1.66</td>
<td>9.06</td>
<td>1.62</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>1.26</td>
<td>0.84</td>
<td>0.26</td>
<td>0.22</td>
<td>1.14</td>
<td>0.26</td>
<td>0.54</td>
<td>0.29</td>
</tr>
<tr>
<td>Emotional adjustment</td>
<td>Pre-test</td>
<td>10.00</td>
<td>2.64</td>
<td>9.80</td>
<td>2.95</td>
<td>9.53</td>
<td>2.35</td>
<td>9.93</td>
<td>2.68</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>8.00</td>
<td>2.17</td>
<td>9.66</td>
<td>2.98</td>
<td>8.73</td>
<td>2.08</td>
<td>9.26</td>
<td>2.43</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>2.00</td>
<td>0.47</td>
<td>0.14</td>
<td>0.03</td>
<td>0.8</td>
<td>0.27</td>
<td>0.67</td>
<td>0.25</td>
</tr>
<tr>
<td>Educational adjustment</td>
<td>Pre-test</td>
<td>11.66</td>
<td>2.55</td>
<td>11.80</td>
<td>2.27</td>
<td>12.26</td>
<td>2.15</td>
<td>11.53</td>
<td>2.35</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>9.53</td>
<td>2.44</td>
<td>11.93</td>
<td>2.46</td>
<td>9.93</td>
<td>1.53</td>
<td>10.80</td>
<td>2.07</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>2.13</td>
<td>0.11</td>
<td>-0.13</td>
<td>-0.19</td>
<td>2.33</td>
<td>0.62</td>
<td>0.73</td>
<td>0.28</td>
</tr>
<tr>
<td>General adjustment</td>
<td>Pre-test</td>
<td>30.93</td>
<td>2.57</td>
<td>31.06</td>
<td>3.17</td>
<td>31.33</td>
<td>3.63</td>
<td>31.06</td>
<td>3.82</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>25.53</td>
<td>2.53</td>
<td>30.80</td>
<td>2.87</td>
<td>26.73</td>
<td>3.19</td>
<td>29.13</td>
<td>3.58</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>5.4</td>
<td>0.04</td>
<td>0.26</td>
<td>0.3</td>
<td>4.6</td>
<td>0.44</td>
<td>1.93</td>
<td>0.24</td>
</tr>
</tbody>
</table>

According to Table 3, the results of covariance analysis show that there is a significant difference between general adjustment variable (DF=3, F=23.56, P<0.001), social adjustment (DF=3, F=5.85, P<0.001), emotional adjustment (DF=3, F=3.21, P<0.001), and educational adjustment (DF=3, F=14.88, P<0.001).

According to the results of Tukey test shown in Table 4, there is a significant difference in the general adjustment among the experimental and control groups of boarding school students (mean difference [I-J]= -5.13, P<0.001). Moreover, the difference between the experimental and control groups of normal school students is significant (mean difference [I-J]= -2.33, P<0.05).

Comparing the experimental groups of boarding schools and those of normal schools, no significant difference may be found between the students studying in boarding schools and those in normal schools based on the effects of Meichenbaum’s problem-solving training (mean difference [I-J]= 0.8, P>0.05).

As for the results of Tukey test, there is a significant difference found between the experimental and control groups of boarding schools in terms of the variables of social adjustment (mean difference [I-J]= -1, P<0.05), emotional adjustment (mean difference [I-J]= -1.86, P<0.05), and educational adjustment (mean difference [I-J]= -2.26, P<0.001).

### Table 3: One-way Analysis of Variance (Adjustment and its Dimensions)

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social adjustment</td>
<td>Between Groups</td>
<td>14.85</td>
<td>3</td>
<td>4.95</td>
<td>5.85</td>
</tr>
<tr>
<td></td>
<td>Within groups</td>
<td>47.33</td>
<td>56</td>
<td>.84</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>62.18</td>
<td>59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional adjustment</td>
<td>Between groups</td>
<td>27.93</td>
<td>3</td>
<td>9.31</td>
<td>13.21</td>
</tr>
<tr>
<td></td>
<td>Within groups</td>
<td>39.46</td>
<td>56</td>
<td>.70</td>
<td></td>
</tr>
</tbody>
</table>
Moreover, there is a significant difference found between the control and experimental groups of normal school students in terms of the variables of social adjustment (mean difference [I-J] = -0.93, P<0.05), emotional (mean difference [I-J] = -0.43, P<0.05), and educational (mean difference [I-J] = -1.46, P<0.05). According to these results, Meichenbaum's problem-solving training has a positive and significant effect on decreasing social, emotional, and educational maladjustment of the normal school students in the experimental group as compared with the control groups.

### Table 4: The Results of Tukey Test of General Adjustment and its Dimensions

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Group (I)</th>
<th>Group (J)</th>
<th>Group difference (I-J)</th>
<th>SD</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social adjustment</td>
<td>Boarding school (Control)</td>
<td>Boarding School (Experimental)</td>
<td>-1.00</td>
<td>.33</td>
<td>.022</td>
</tr>
<tr>
<td></td>
<td>Normal Schools (Control)</td>
<td>Normal Schools (Experimental)</td>
<td>-.20</td>
<td>.33</td>
<td>.93</td>
</tr>
<tr>
<td></td>
<td>Normal Schools (Experimental)</td>
<td>Normal Schools (Control)</td>
<td>-.93</td>
<td>.33</td>
<td>.03</td>
</tr>
<tr>
<td>Emotional adjustment</td>
<td>Boarding school (Control)</td>
<td>Boarding School (Experimental)</td>
<td>-1.86</td>
<td>.30</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Normal Schools (Control)</td>
<td>Normal Schools (Experimental)</td>
<td>1.20</td>
<td>.30</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td>Normal Schools (Control)</td>
<td>Normal Schools (Experimental)</td>
<td>-.13</td>
<td>.30</td>
<td>.04</td>
</tr>
<tr>
<td>Educational adjustment</td>
<td>Boarding school (Control)</td>
<td>Boarding School (Experimental)</td>
<td>-2.26</td>
<td>.43</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Normal Schools (Control)</td>
<td>Normal Schools (Experimental)</td>
<td>-1.60</td>
<td>.43</td>
<td>.003</td>
</tr>
<tr>
<td></td>
<td>Normal Schools (Experimental)</td>
<td>Normal Schools (Control)</td>
<td>5.13</td>
<td>.69</td>
<td>.000</td>
</tr>
<tr>
<td>General adjustment</td>
<td>Boarding School (Experimental)</td>
<td>Normal Schools (Control)</td>
<td>.69</td>
<td>.69</td>
<td>.002</td>
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<tr>
<td></td>
<td>Normal Schools (Control)</td>
<td>Normal Schools (Experimental)</td>
<td>.69</td>
<td>.00</td>
<td>.000</td>
</tr>
</tbody>
</table>

Comparing the experimental groups of normal and boarding schools, there seems to be no significant difference found between the normal and boarding school students in terms of decreasing the social maladjustment (increasing social adjustment) (mean difference [I-J] = -0.2, P>0.05) and decreasing the educational maladjustment (mean difference [I-J] = -0.2, P>0.05). However, there seems to be a significant difference found between them in terms of decreasing the emotional maladjustment (increasing emotional adjustment) (mean difference [I-J] = 1.2, P<0.05).

### Discussion and Conclusion

The present paper aims at comparing and determining the extent of effectiveness of Meichenbaum's problem-solving training on the normal and boarding school students. In short, the results show that this training has significant effect on increasing adjustment for the experimental group of the normal school students as compared with the control group.

The boarding schools are established to develop educational facilities and make educational opportunities for the students living in far and sparsely populated villages or tribal areas. As a result, they can reduce the number of dropouts and the educational failure of students living in far villages, which may lead to educational, social, and mental promotion in individuals. To name the advantages of studying in such schools, we can mention factors such as sociability, providing a better environment for learning, providing a better communication between the local community and the bigger society, and reducing the costs of training and education, which, in turn, can provide a better condition for social and educational adjustment. On the other hand, being away from families and the existence of subcultures can provide the ground for the emotional and social maladjustment in the students (Urban, 2007).

The stressful situations and maladjusted behaviors in the boarding schools can be the result of cultural problems or emotional problems because the students have to live far away their families. In fact, the students deal with situations different from their routine life, which may cause maladjustment; therefore, problem-solving training can help them improve their adjustment level and deal with emotional, social, and educational problems more effectively.

The results of research carried out by Major, Cooper, Cozzarelli, and Zubek (1998) and also Park, Moor, Turner, and Alder (1997) show that adjustment is influenced by problem-solving-based thoughts. In other words, enriching the environment through problem-solving skills can lead to adjustment. In addition, many researchers (e.g. Pakasalhati, 2000; Teglasi & Rottman, 2001) believe that
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incorrect patterns in processing information, problem-solving strategies, and reasoning play a key role in forming maladjustment.

The results of this study are also in conformity with the results obtained by Sarbanani et al. (2008). They studied the effects of problem-solving training on improving adjustment in boarding school female students in Zarand; the results showed that problem-solving training increases the general adjustment among the students. In the same vein, the results obtained by Sajjadipour, E’temadi, and Falsafinejad (2009) showed that training communication skills can improve adjustment in the boarding high school students of welfare organization (Behzisti) in Tehran, which was in line with the results of the present paper. In conformity with these results, Hosseininejad, Sohrabi, and Eskandari (2009) found that problem-solving training can also improve the students’ mental health in the boarding high schools of welfare organization (Behzisti) in Tehran. In a study conducted by Zargarian, Mahmoudi, and Salehi (2004), the results showed that problem-solving training has positive effects on personality traits (self-esteem, personal accomplishment, and improving the social relations to prevent emotional and mental disabilities, and make more adjustment through the competence for effective and efficient confrontation) in the teenagers in the boarding centers of welfare organization (Behzisti) in Tehran. These results conform to those found in the present paper.

Furthermore, Meichenbaum’s problem-solving training significantly caused more decreased maladjustment in the normal school students in the experimental group that the ones in the control group. The students in normal schools can be adjusted through experiencing their routine life. In fact, the students play roles in the social life, they are supported by their parents, they have access to the outdoors, and they learn in their own ways in the environment; however, they may face problems in different situations. Improving their capabilities in facing with different problems can help them be more adjusted. Therefore, problem-solving training can help them increase their adjustment in social life, family, and school (Urban, 2007).

The results of the study also conform to the findings achieved by, Mirmousavi et al. (2008), Golestaniard, Dehestani, and Zare (2011), Asadi Dastjerdi, Roushan Cheali, and Fathi Ashtiani (2013), Witty, Heppner, Bernard, and Thoreson (2004), Dreer, Elliot, Fletcher, and Swanson (2005), Kendal and Fischler (1984), and Sukhodovsiki et al. (2004).

On the other hand, during training the students seem to evaluate their own ideas, beliefs, and perceptions, and become aware that they can be adjusted better and more effectively with the inner and outer environment. Learning this skill, they are thus able to control their stress, which is dangerous at its high level, they are also able to know themselves better, understand the problems, and decide better. Finally, they are able to have a healthy character and follow real and reasonable goals in life.

Moreover, the results indicate no difference in increasing adjustment between the boarding and normal school students in terms of learning Meichenbaum’s problem-solving training. However, some problems such as difficulty in adjusting to the boarding schools, organization, being far from families, deprivation of parental care, crowdedness of the boarding schools, lack of a quiet place for studying, subcultures, etc. cause maladjustment in the students. In the normal schools, there can be found some problems likewise such as a lack of team-working and an effective relation between the students and teachers, and less discipline, which result in maladjustment in the students (Hosseini et al., 2012).

According to Dreer, Elliott, Fletcher, and Swanson (2005), when one is in a situation in which he cannot adjust himself effectively to the social, family, or educational environment, this maladjustment affects his behavior and emotional states (Aber, Hoglund, Jones, & Brown, 2015). When a teenager’s emotional response or behavior is maladjusted— that is the behavior is against the occasion or damages significantly his social or educational adjustment- it is assumed that he lacks the appropriate behavioral skills, or the problem-solving training is incomplete or disturbed (Mahjub, Aqamohammadian, & Aminyazdi, 2013).

Mithiuly, Bharathi, and Nagarathna (2004) assert in their research that there is a relationship between the type of school and adjustment, and that the students in private schools have more problems than state schools. Furthermore, Makkar (2012) argues that there is a significant difference in adjustment of students in rural and urban high schools. In the same vein, Hassanabadi (2002) discusses that the students in normal schools are more adjusted than the students in boarding schools. And Hosseini et al. (2012) concluded that the adjustment made in male and female students in boarding schools is less than that in the students of normal schools; they also maintain that there is no significant difference in the adjustment made between male and female students, which is in contrast with the results of the present paper. However, there is no research specifically studying and focusing on the problem-solving training and its effects on the students’ level of adjustment.

Nevertheless, Meichenbaum’s problem-solving training has effects on decreasing the students’ social, emotional, and educational maladjustment in boarding schools. What is concerned in adjustment is one’s mastery over the environment, and dealing with himself. The adjusted person is able to plan for any moments of his life, and behaves normally. The problem-solving skills promote one’s social-mental abilities as well. Also, these skills allow the person to actualize their potential attitudes, values and talents, and be prepared for proper and effective adjustment. They stimulate the person to do
effective and good activities and make him/her more self-confident (Jamalipaghale, Jadidifigan, & Nazaribadi, 2014). The results conform to the findings achieved by Sarbanani et al. (2008), who studied the effectiveness of problem-solving training in promoting the students’ general adjustment in boarding schools in Zarand. They conclude that problem-solving training can improve the students’ general, social, and emotional adjustment, conforming to the results of the present paper. Nonetheless, it cannot increase the students’ educational adjustment, which is in contrast to the results of the present study. The results of this paper conform to the results found by Hosseini et al. (2012); they studied the adjustment made among boarding school students.

In addition, the findings obtained by Sajjadipour et al. (2009) show that problem-solving training has a significant effect on the students’ social and emotional adjustment in boarding centers of welfare organizations in Tehran, conforming to the results of this paper. The study conducted by Hosseininejad et al. (2005) is also in conformity with this paper, emphasizing that problem-solving training leads to mental health and emotional and educational adjustment in boarding centers of welfare organizations in Tehran.

Furthermore, the Meichenbaum’s problem-solving training has a significant effect on the students’ social, emotional, and educational maladjustment made in normal schools. Focusing on social problem-solving abilities and adjustment made in people with visual impairment, Dreer et al. (2005) studied 25 men and 29 women with visual impairment, and concluded that negative attitudes towards problem-solving can predict low level of emotional adjustment, whereas developing problem-solving abilities can improve adjustment.

Studying 30 girls in welfare centers in Shahrerey (Doulat Abad), Tehran, and Shemiranat, Asadidastjerdi et al. (2013) concluded that problem-solving training can result in decreasing the girls’ emotional maladjustment, which conforms to the results of the present study.

Mirmousavi et al. (2008) studied the effectiveness of problem-solving training in relation to group-works in promoting the achievement of motivation and adjustment among the male high school students in Zone tin Tehran from 2006-2007. The results showed that problem-solving training has no effect on adjustment from emotional and social dimensions. The results are in conformity with the results obtained by Golestanifar et al. (2014), Mikaeli et al. (2014), Dubow, Tisak, Causey, Hryshko, and Reid (1991), and Baker and Williams (2001). There are also some other studies conforming to the results of this paper (e.g., Ahadi, Mirzaee, Narimani, & Abulqasemi, 2009; Amiri Hagari, Yarmohammadian, & Malekpoor, 2006; Hatamifard, Kafi, & Khoshrevesh, 2014; Grant, Elliot, Giger, & Bartolucci, 2004; Imanizade, Shafi’ Abadi, & Sudani, 2012; Rahmani, Valizade, & Ranjar, 2012; Talazzoli et al., 2013).

Finally, the results of the present paper show that there is no significant relationship between decreasing social maladjustment and decreasing educational maladjustment in normal and boarding school students. However, concerning the effects of Meichenbaum’s problem-solving training on decreasing emotional maladjustment, there is a significant difference between the students in normal schools and boarding schools.

In terms of the relation between problem-solving factors and adjustment, if the person does not avoid stressful and critical situations and face with them, and believe that he can deal with them and control his emotions, it is safe to say that he can solve the problem and adjust to the situation. But if the person avoids facing with the problems or cannot control his emotions, he cannot change the stressful situation, and he would be more stressed and nervous (Gholtash, Salehi, & Khodadadi, 2008). Therefore, it can be concluded that there are few studies comparing adjustment in boarding with normal schools students. For example, Hosseini et al. (2012) compared adjustment in boarding and normal school students (the schools are beside each other). They studied 557 boarding school students and 627 normal school students and concluded that adjustment made (social, emotional, and educational) in the male and female students in boarding schools is less than that among the students in the normal school students, and that there is no significant difference in adjustment made between male and female students.

To sum up, the findings of the paper show that the Meichenbaum’s problem-solving training significantly increases the general adjustment along with its dimensions (i.e. social, emotional, and educational) in normal and boarding school students. On the other hand, comparing the scores in the post-test of the experimental group, there was no significant effect of such training found on general adjustment and educational adjustment in the boarding and normal school students. However, the results show a significant difference in problem-solving training in relation to emotional adjustment in both boarding and normal school students. Considering these results, it is suggested that formative assessment be studied to examine its continuity of effectiveness in determining if the Meichenbaum’s problem-solving training can cause better adjustment in students’ social and job adjustment. In addition, it is suggested that a similar research be conducted on secondary school students (first grade of high school) and study the effects of problem-solving skills on the next level (second grade of high school) through some longitudinal studies. As the effect of training is one of variables that can influence the results of the study, it is suggested that the research be repeated as controlling the effects of training. Studying the effective factors in the students’ adjustment made in dormitories and controlling it as such can reveal the real effects of problem-solving training; therefore, it is suggested that the effective factors in adjustment be studied in boarding school students through qualitative research.
Implementing similar interventions and treatments and comparing different kinds of treatment and instruction on the students’ adjustment can help researchers and authorities use and apply treatments and training courses to improve the students’ adjustment. It is suggested that during training sessions of problem-solving counseling with parents, principals of boarding schools, school managers, vice principals, and staff be used to study and control the interactive roles of these people in the students’ adjustment. Finally, it is suggested that problem-solving courses be offered to the students at their arrival to schools to increase their level of adjustment to the school and dormitory.

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