Comparison of Mindfulness, Psychological Capital, and Self-Compassion between Students with Externalizing Behavior Problems and Normal Students

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**ABSTRACT**

**Background:** The aim of this research was to compare mindfulness, psychological capital, and self-compassion between students with externalizing problems and normal students in Isfahan city, Iran.

**Methods:** The statistical population of this case-control study included all the students with externalizing problems and normal students in Isfahan city in the academic year of 2017-2018. We used purposive non-probability sampling to collect the samples. In this regard, 100 students with externalizing problems and 100 normal students were selected and asked to complete questionnaires. The questionnaires used in this study included Mindfulness Skills questionnaires, Self-compassion questionnaire, and PSY CAP (The Psychological Capital) questionnaires. The data were analyzed by SPSS23 using analysis of variance.

**Results:** The results showed that the mindfulness, PSY CAP, and self-compassion were significantly different between the two groups (P-value < 0.0001). The students with externalizing problems had lower scores in mindfulness, PSY CAP, and self-compassion than the normal students.

**Conclusion:** Students with externalizing behavior problems had lower mental health due to their vulnerable cognitive and psychological processes. Accordingly, mindfulness, PSY CAP, and self-compassion scores were significantly different between the normal students and those with externalizing problems. Considering this difference, we suggest the authorities to pay enough attention to such varieties and conduct appropriate interventions accordingly.

**Keywords:** Mindfulness, Psychological Capital, Self-Compassion, Externalizing Problems

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**ORIGINAL ARTICLE**

**Article History:**
Received: 27 Mar 2018
Revised: 1 Jun 2018
Accepted: 1 Jul 2018

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**Citation:**
Introduction

In recent years, the behavioral, emotional, psychological, and empathetic problems of children have attracted the attention of many psychologists and psychiatrists. On the one hand, a large part of the community is made up of children and on the other hand, their possible childhood psychological problems may develop into the puberty and adulthood along with the growth process. Consequently, the treatment of emotional and psychological problems becomes more difficult. It is worth noting that the children's psychological, emotional, and behavioral problems should be treated in younger ages by appropriate interventions; otherwise, the treatment of these problems will be ineffective in later years.

Based on the dimensional approach, the childhood psychological disorders are divided into internalizing and externalizing problems. Externalizing disorders include problems and discrepancy patterns that reveal in conflict with others and environment. They lead to decreased levels of behavioral control, impulse control, response inhibition, and self-efficacy. These discrepancy patterns include law-breaking and aggressive behaviors such as attention deficit hyperactivity disorder, conduct disorder, and oppositional defiant disorder.

The literature showed that interaction of biological, psychological, and social variables acted as the underlying, preservative, and accelerating factors of externalized behavioral problems. Despite the importance of biological factors, it seems that unfavorable factors in the family environment, such as the undesirable parent-child relationship, the inefficient parenting styles, pessimism, and deficiency in social skills played important role in the emergence, development, or exacerbation of externalizing behavior problems.

Children and adolescents with externalizing behavior problems show aggressive behaviors, which harm their communicational, social, and educational processes. The incidence of aggression and behavioral problems in these people indicates their low mindfulness. The results of various studies showed that the absence of mindfulness was associated with aggressive and harmful behaviors. The non-judgmental awareness about personal experiences is defined as mindfulness. Mindfulness means experiencing the daily events of life without judging them. The main purpose of mindfulness is not relaxation, but observation of the internal negative events without any judgment or prejudgment. This skill provides people with the opportunity to experience the unpleasant events less than their real undesirability. In the case that people become aware of the present, they do not focus on the past or future time any more. Most psychological problems are associated with events that occurred in the past or will occur in the future. The efficient adaptation strategies of mindfulness to establish and maintain awareness include: the absence of judgment and evaluation, patience, tolerance, initiative mind, non-engagement, acceptance, and release. In fact, the mindfulness increases the quantity and quality of self-care behaviors. In other words, mindfulness leads to relaxation, hope, and a better ability to cope with stress; it increases the self-confidence and internal control.

The incidence of aggressive, confrontational, and controversial behaviors in children and adolescents with externalizing behavior problems not only harms other people, but also harms their psychological and emotional health. Therefore, we can expect that these children and adolescents have lower self-compassion. Self-compassion refers to the self-acceptance and acceptance of self-experiences in a self-kindness and intelligent framework. In other words, self-kindness is a self-concept rather than a self-judgment. It is considered as a kind of support for shortcomings and inefficiencies. A common characteristic among the human emotions is the fact that all humans are defective, mistaken, and engaged in unhealthy behaviors. In contrast, the extreme self-compassion simulation directs the individual's mindfulness into a balanced and clear awareness of the present
experiences and helps the individual to ignore the painful aspects of an experience so that they do not occupy the mind repeatedly.\textsuperscript{15} According to the studies in this area, individuals with high self-compassion have a higher psychological health level than those with low self-compassion. The reason is that individuals with high self-compassion accept the pain and therefore experience less frustration.\textsuperscript{16}

Another psychological component that harms the children and adolescents with externalizing behavior problems is PSY CAP (The Psychological Capital). PSY CAP is defined as the individuals’ positive psychological state in their development and growth process. It is characterized by four elements (HERO): Hope (preserving toward goals until achieving the success and changing the path when required), Self-efficacy (the individual’s belief in one’s innate ability to achieve goals in challenging tasks), Resilience (flexibility and sustainability while facing with the difficulties to achieve success), and Optimism (positive attribution towards success now and in the future).\textsuperscript{17} The nature of PSY CAP is positive and represents positive aspects of the humans’ capacities and abilities.\textsuperscript{18}

Children and adolescents with externalizing behavior problems are highly vulnerable in psychological, behavioral, emotional, interactive, and communicative aspects. In addition, no study has ever compared mindfulness, PSY CAP, and self-compassion between students with externalizing behavior problems and normal students. Therefore, we conducted the present study to compare these components among the two mentioned groups.

\textbf{Methods}

This case-control study was conducted with a causal-comparative design because the researchers did not have any effect on the studied variables. The statistical population included all the students with externalizing behavior problems and normal students at the first grade of high school in Isfahan city during 2017 - 2018 academic years. We used purposive non-probability sampling method in this research. To collect the samples, we visited 15 male secondary schools in the sixth district of education organization. We asked the teachers and counselors of these schools to introduce the students with aggression, impulsivity, disobedience, law-breaking, controversial, and oppressive behaviors. We also selected the schools in vulnerable regions using purposive method. In this study, 127 students were selected from 15 schools. The selection process was performed on the basis of the children and adolescent’s questionnaire of behavior. This questionnaire provides the required criteria for the researchers to identify the students with externalizing behavior problems confidently. A total number of 113 students with externalizing behavior problems were identified initially. Later, we selected 100 students with the highest scores purposively. In order to select the normal students, we distributed the children and adolescents’ behavior questionnaire among 200 students, who did not have any disciplinary problems. Finally, 100 students with the lowest scores 63 were selected. The two groups were matched on the basis of their gender, education, geographical region, parents’ married life.

The size of samples for each group was calculated by referring to the scientific written resources, which reported 100 individuals for each group for generalizability of the data.\textsuperscript{19} The inclusion criteria for the students were having aggressive, impulsive, and abusive behaviors, as well as disciplinary and disobedience problems. Furthermore, gaining the score of 63 and above in the behavioral questionnaire, having physical health, showing inappropriate disciplinary behaviors, and studying at the first grade of secondary school were other characteristics needed for participating in the study. The exclusion criteria included the incidence of a specific physical problem during the research, reluctance to continue the research, incomplete questionnaires, and lack of cooperation.

\textbf{Kentucky Inventory of Mindfulness Skills Questionnaire}

The Kentucky Inventory of Mindfulness Skills
(KIMS) Questionnaire was developed by Bayer, Smith, and Allen (20). The questionnaire consists of 39 items designed according to the four components of mindfulness: observation (Questions 1, 5, 9, 13, 17, 21, 25, 29, 30, 33, 37, 39), description (Questions 2, 6, 10, 14, 18, 22, 26, 34), act with awareness, i.e., focusing (Questions 3, 7, 11, 15, 19, 23, 27, 31, 35, 38), and acceptance without judgment (Questions 4, 8, 12, 16, 20, 24, 28, 32, 36). The items should be scored on a five-point Likert scale ranging from very rarely to most of the time (1-5). The scores of the questionnaire range from 39 to 195. On this scale, higher scores indicate higher mindfulness.

Bayer et al. psychometric analysis on participants showed that this questionnaire had a high internal consistency (0.73). The Cronbach's alpha coefficients of observation, descriptive, focusing, and acceptance subscales were also 0.91, 0.84, 0.83, and 0.87, respectively. Their test-retest validity rates of these subscales were 0.65, 0.81, 0.86, and 0.83, respectively. Furthermore, a significant correlation was observed between this questionnaire and other scales, including the mindfulness measurement tool, Freiburg mindfulness inventory, the cognitive and emotional mindfulness scale, and the mindfulness questionnaire. Dehghan Manshadi et al. investigated the psychometric properties of this questionnaire in Iran and showed that the Cronbach alpha was 0.82. The factors analysis also showed four factors of focus, descriptiveness, acceptance (paying attention to affairs), and the observation in this questionnaire. They also reported that 42.26 percent of the total test variance was determined by these variables. The convergent reliability of the test subscales was between 0.47 and 0.78.

Self-compassion questionnaire

This questionnaire was developed by Reese et al. in 2011. It includes 12 items for measuring three components self-kindness (2 items) versus self-judgment (2 items), common humanity (2 items) versus isolation (2 items), and mindfulness (2 items) versus extreme simulation (2 items). The items should be responded on a five-point Likert scale, from almost never = 1 to almost always = 5 and higher scores indicate greater levels of mindfulness. Meanwhile, items 1, 4, 8, 9, 11, and 12 were scored reversely. Shahbazi et al. normalized this questionnaire for application in Iran. The researchers reported that the Cronbach alpha coefficient was 0.91 for the scale's total score. In addition, Cronbach's alpha coefficients for self-kindness, self-judgment, common humanity experiences, isolation, mindfulness, and extreme simulation were 0.83, 0.87, 0.91, 0.88, 0.92, and 0.77, respectively. The concurrent and converging validity of the questionnaire were also normal.

Luhans' Psychological Capital Questionnaires (PCQ)

The psychological capital questionnaire was developed by Lutanz and Olive in 2007. It consists of four subscales of self-efficacy, hope, resilience, and optimism. Each subscale includes six items and each item is measured by a six-point Likert scale (strongly disagree to strongly agree: 0 to 5). In order to measure the PSY CAP score, we initially measured each sub-score separately and then the total score was calculated by the sum of these scores. The minimum and maximum attainable scores range from zero to 120. Forouhar, Hoveyda and Jamshidian conducted two experimental studies and confirmed the face and construct validity of this questionnaire. Its reliability coefficient was also reported as 0.87 using the Cronbach’s alpha. Similarly, Farrokhi and Sabzi calculated the correlation of each subscale score with the total score to determine the validity. They reported that the coefficients of self-efficacy, hope, resilience, and optimism were 0.84, 0.78, 0.66, and 0.65. The coefficient for the total scale was 0.89, which indicated the optimal reliability scale. According to the current research, the Cronbach's alpha coefficient of self-efficacy, hope, resilience and optimism scales were 0.82, 0.83, 0.70, and 0.71 and for the total scale was 0.84.

Descriptive and inferential statistics were used to analyze the data in this study. We used the mean and standard deviation at the descriptive level. Shapiro-
Wilk test was used to investigate the normal distribution of variables at the inferential statistics, Levine test to investigate the variance and analysis of variance test to investigate significant difference of research components between the two groups. Data analysis was performed using SPSS.

**Results**

Results of the demographic data showed that the participants were in the age range of 12 - 15 years, while the age range of 13 years was frequent among the two groups (38%). On the other hand, these people were at the seventh to ninth grades of education and the eighth grade was more frequent among the studies groups.

The parametric assumptions were evaluated before presentation of the variance analysis results. Accordingly, the Shapiro Wilk test results indicated the normal assumption of data distribution in three variables of self-compassion, PSY CAP, and mindfulness of students with externalizing behavior problems and normal students (P-value < 0.05). Furthermore, homogeneity of variance assumption was evaluated by Levin's test. The results of this study indicated that the difference between the two groups was insignificant. This indicates that the homogeneity assumption of variances is confirmed in the above variables (P-value < 0.05). Table 2 shows the results of inferential statistics.

According to the results of Table 2, a significant difference was observed between the two groups of students with externalizing behavior problems and normal students regarding the components of self-compassion, PSY CAP and mindfulness. As the results of descriptive findings show, the students with externalizing behavior problems have lower scores in these components than the normal students. Furthermore, considering the effect size, we can say that 71%, 54%, and 66 percent of changes in self-compassion, PSY CAP, and mindfulness variables are explained by the grouping variable (with or without externalizing behavior problems).

### Table 1. Comparison of self-compassion, PSY CAP, and mindfulness between students with externalizing behavior problems and normal students

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-compassion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students with externalizing behavior problems</td>
<td>89.60</td>
<td>10.68</td>
</tr>
<tr>
<td>Normal students</td>
<td>117.63</td>
<td>11.66</td>
</tr>
<tr>
<td>PSY CAP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students with externalizing behavior problems</td>
<td>45.48</td>
<td>6.25</td>
</tr>
<tr>
<td>Normal students</td>
<td>60.17</td>
<td>7.32</td>
</tr>
<tr>
<td>Mindfulness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students with externalizing behavior problems</td>
<td>28.75</td>
<td>4.10</td>
</tr>
<tr>
<td>Normal students</td>
<td>39.69</td>
<td>4.77</td>
</tr>
</tbody>
</table>

### Table 2. The results of variance analysis of self-compassion, PSY CAP and mindfulness between students with externalizing behavior problems and normal students

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Sum of squares</th>
<th>Degrees of freedom</th>
<th>Average squares</th>
<th>F</th>
<th>Significance level</th>
<th>Effect size</th>
<th>Test power</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grouping error</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>--------------------</td>
<td>-------------</td>
<td>------------</td>
</tr>
<tr>
<td>Self-Compassion</td>
<td>Total</td>
<td>39284.04</td>
<td>1</td>
<td>39284</td>
<td>483.80</td>
<td>0.0001</td>
<td>0.71</td>
<td>1</td>
</tr>
<tr>
<td>Psychological Capital</td>
<td>Grouping error Total</td>
<td>10789.80</td>
<td>1</td>
<td>10789.80</td>
<td>232.49</td>
<td>0.0001</td>
<td>0.54</td>
<td>1</td>
</tr>
<tr>
<td>Mindfulness</td>
<td>Grouping error Total</td>
<td>5984.18</td>
<td>1</td>
<td>5984.18</td>
<td>384.68</td>
<td>0.0001</td>
<td>0.66</td>
<td>1</td>
</tr>
</tbody>
</table>
Discussion

The current research was conducted to compare the mindfulness, PSY CAP, and self-compassion between students with externalizing problems and normal students in Isfahan city. The results of the data analysis showed that the mindfulness, PSY CAP, and self-compassion were significantly different between the two groups of students (P-value < 0.0001). Students with externalizing behavior problems had lower scores than the normal students in these components.

The results of this study were consistent with the findings of Butaglis et al. These researchers showed that children and adolescents with externalizing behavior problems had aggressive behaviors which harmed their communication, social, and educational processes. Aggressive behaviors, either at the communication or at the equipment levels harm the children and adolescents, as well as the others. Accordingly, we can conclude that children and adolescents with externalizing behavior problems have a low self-compassion. Studies showed that individuals with high self-compassion had more psychological health and lower psychological vulnerability than those with low self-compassion. This is because the inevitable pain and feeling of failure that everyone experiences do not persist by a violent self-blame, isolation, and extreme simulation with thoughts and emotions in people with self-compassion. This supportive attitude toward one's self is associated with other positive psychological consequences such as higher motivation to solve the interpersonal conflicts and constructive problems. This process leads to a lower level of depression, anxiety, perfectionism, and rumination in these individuals.

In addition to the low self-compassion, the findings of our study indicated that students with externalizing behavior problems had lower PSY CAP than the normal students. Thus, students with externalizing behavior problem had lower self-compassion. The results represented that individual with lower self-compassion, pleasure, optimism, life satisfaction, internal motivation, emotional, intelligence, coping skills, wisdom, and resilience. These components are also well known in PSY CAP. The literature indicated that PSY CAP consists of self-efficacy, hope, optimism, and resilience. Accordingly, children and adolescents with externalizing behavior problems cannot develop self-efficacy and resilience and have lower optimism due to their low levels of tolerance and response inhibition.

The results of this study showed that students with externalizing behavior problems had lower mindfulness than the normal students. This finding was consistent with the results reported by Dousti, Pourmohamadreza Tajrishi and Gholbari Bonab. As they reported, adolescents with externalizing behavior problems were vulnerable to psychological well-being. On the other hand, the results reported by various researches indicated that psychological well-being was influenced by mindfulness. The mindfulness develops psychological states, since it contains issues such as acceptance, values, spirituality, and relationships. Mindfulness focuses on acceptance strategies rather than change-based strategies. It does not try to change the content of ineffective thoughts and attitudes, but helps the individuals to accept, decentralize, change the relationships and attitude toward the thoughts as a mental reality, avoid negative emotions, and accept without judgment. Mindfulness exposes the people and increases their tolerance, which can reduce the behavioral, communicative and emotional problems of individuals.

The current study had some limitations such as lack of random sampling and causal inference considering the causal-comparative research method. The results were also limited to geographical region and groups (students with externalizing behavior problem and normal students in Isfahan). Therefore, we recommend other researchers to conduct similar studies on other groups and in other geographical regions using random sampling method and experimental research method to increase the generalizability power of the findings.
Conclusion
The findings of the current study indicated that students with externalizing behavior problems had lower PSY CAP and self-compassion in comparison with normal students. Therefore, the emotions and psychological processes of such individuals should be studied in psychology clinics, centers of counseling and psychological services, as well as children and adolescent's healthcare centers using appropriate psychological interventions such as mindfulness treatment, treatment based on acceptance, commitment and play therapy. Consequently, their emotional and psychological failures and disabilities can be decreased.

Conflicts of Interest
In this study, did not report any potential conflicts of interest with the authors.

Acknowledgments
We appreciate all the school staffs and students, who contributed to conduct this research. Further, in the current study all ethical issues were observed base on the Helsinki Declaration.

Authors’ Contribution
All authors read and approved the final manuscript and are responsible about any question related to article.

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