Relationship between Spiritual Intelligence and Academic Engagement: Mediating Role of Academic Conscience

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ABSTRACT: The Aim of this study was to determine the relationship between spiritual intelligence and academic engagement through the mediating role of academic conscience in female high school students in the second district of Zahedan, Iran. The method of study was a descriptive correlation research that was performed via path analysis. The statistical population of this study includes all female high school students in the second district of Zahedan in the academic year 2021-2022 (N = 4191), which according to Krejcie and Morgan table 352 people were selected by stratified random sampling. For collecting data, three questionnaires were used: spiritual intelligence (King, 2008), academic engagement scale (Salmela-Aro & Upadaya, 2012) and academic conscience (McIlroy and Bunting, 2002). The results indicated that there was a direct and significant relationship between spiritual intelligence and academic engagement and between spiritual intelligence and academic conscience. Also, there was a direct and significant relationship between academic engagement and academic conscience. Furthermore, there was an indirect and significant relationship between spiritual intelligence and academic engagement through the mediating role of academic conscience in female high school students. In general, the research findings have supported the role of personality and motivational variables in academic engagement.

Keywords: Spiritual Intelligence, Academic Engagement, Academic Conscience, Female high school students.

Introduction
Since academic intelligence and aptitude, as the two main factors in academic achievement, are less influenced by the teacher or educator, we try to maximize the use of intelligence by increasing motivation and creating academic engagement for students in schools. In an equal state of equality of intelligence and academic aptitude, it has been observed that the academic achievement of students with high motivation and academic conscience has been more effective in their success (Daneshi Lisar & Khsravi Babadi, 2018).

Spirituality is the fundamental feeling of complete connection with oneself, others and the whole world. Spiritual intelligence is the intelligence through which one solves problems of meaning and values that are related to wholeness, flexibility, self-awareness, love, creativity, the ability to ask why, and so on. It puts us and our lives in a broader, richer and more meaningful context. Intelligence that helps us understand which actions or which path is more meaningful than the other (Kian & Ghaderi, 2019). In fact, spiritual intelligence makes optimal use of spiritual intelligence and emotional intelligence. Spiritual intelligence includes inner guidance and knowledge, maintaining mental balance, inner and outer peace, and functioning along with insight, gentleness, and kindness. Spiritual intelligence is the ability to gain the power to help us achieve our dreams; It helps us to distinguish good from evil and is
able to simplify difficult rules and regulations through compassion and empathy. In fact, this intelligence makes us rational, emotional and spiritual creatures (Mirgol, Askari, & Mohseni, 2020). Amram and Dryer (2008) introduces spiritual intelligence as the ability to apply a multi-sensory approach to problem solving and learning along with listening to the inner voice. In other words, spiritual intelligence is a deep self-awareness that one is more aware of and understands its inner aspects. In this case, human beings are not just bodies, but a collection of thoughts, souls and feelings (Amram & Dryer, 2008). Zohar, Marshall, and Marshall (2000) express spiritual intelligence is the intelligence that confronts human beings with semantic and value issues and places life in broad and rich contexts in terms of semantic context. Spiritual intelligence as a cognitive-motivational concept expresses a set of adaptive resources and skills that facilitate the process of problem solving and goal achievement. Skrzypińska (2021) indicated that hope for God's help in difficult situations, benefiting from social and spiritual support, a sense of belonging to a high source and reaching a level of moral justice, are the characteristics that students who they have high spiritual intelligence and emotional intelligence, they can use them to face less stress in the face of academic hardships and problems, and they can maintain their academic motivation for progress at an optimal level.

Engagement or flow is one of the constructs of positive psychology (Özhan & Kocadere, 2020), and refers to a positive mental feeling in which a person with a level of skill with complete focus immerses himself in a challenging activity with high arousal. When a student encounters obstacles in achieving his goals, a state of cognitive imbalance is created in him that if he can regain his cognitive balance through thinking and problem solving., he can return to flow state. In the state of flow, intense concentration, interest and pleasure in an activity are experienced simultaneously. This state is associated with a sense of inner motivation, high control and enjoyment (Perkmann, Salandra, Tartari, McKelvey, & Hughes, 2021). Academic engagement, which is referred to as a person's desire to achieve educational goals, plays an important role in students' interest in school. Academic engagement means the complex understanding of subjects as an opportunity to gain mastery when engaging in activities of interest, which leads to deep cognitive engagement with the subjects being studied and ultimately having a deeper approach to study. Engagement can also make students optimistic about education (Perkmann et al., 2021). Academic engagement includes three levels of energy, a sense of commitment and engagement with the school, and is a positive belief in learners that they are able to emphasize their learning, trust the teacher, and feel a sense of identity towards the school(Perkmann et al., 2021).

Findings of Shariatnia and Kordafshari (2014) showed that there is a positive and significant relationship between social support and academic engagement as well as between self-efficacy and academic engagement.

Academic conscience is also studied as a very determining factor in students. Conscience is a kind of internal factor that controls human thoughts and actions, because before warning, it warns him to think first about the consequences and then take action or ignore it. (Rostamogli & Khoshnoodnia Chomachaei, 2013). Conscience is a subset of duty-oriented, which is one of the five major factors of personality traits. Conscience is the force that commits a person to perform a set of goal-oriented
behaviors in the organization and also converges different thoughts to form a constructive behavior. Behaviorists associate conscience with reinforced values and norms, but trait theorists believe that these behaviors stem from a latent and public source and each of them also believes that conscience affects performance, strengthening beliefs, cognition and expectations (Fatin, Hosseiniyan, Asgharnejad Farid, & Abolmaali Alhosseini, 2020). Costa Jr and McCrae (1990) consider the factor of conscience to include the sub-components of adequacy, discipline, conscientiousness, self-control, sobriety, success-seeking, and contemplation. Conscientious people are ethical and productive people that have high levels of enthusiasm and are independent and responsible (Kabini Moghadam, Entesare Foumani, Hejazi, & Asadzadeh, 2019). Croitoru and Munteanu (2014) showed that people with high conscience work hard, have higher grades and have more positive and committed social relationships, while people with low conscience have poor performance in school and work. Zhang (2003) indicated that students with low conscience have poor performance in lessons and work. Yavari and Lotfi Azimi (2021) showed that there is a significant relationship between academic engagement, achievement goals and implicit beliefs of intelligence with academic dishonesty. Yosefi Afrashte, Rezaei, and Sadeghi (2021) indicated that there is a significant correlation between academic engagement and study and learning approaches. Usán Supervía, Salavera Bordás, and Lorente (2020) showed that the relationship between academic engagement and goal orientation is significant. Naghsh, Ghiaei Esfahani, and Bakhtiari (2019) revealed that there is a positive and significant relationship between academic creativity and academic success with academic self-fulfillment. Academic engagement mediates the relationship between dual influencing factors and academic self-fulfillment. Fazli and Fouladchang (2019) showed that academic conscience has a positive effect on achievement goals (tendency performance, tendency mastery, avoidance performance and avoidance mastery) and a negative effect on academic burnout. Afshari (2015) showed that there is a positive and significant relationship between spiritual intelligence and moral intelligence with academic performance. There was a positive and significant relationship between all four dimensions of spiritual intelligence and students' academic performance. Turi, Rani, Abidin, Mahmud, and Al Adresi (2020) concluded that the relationship between spiritual and emotional intelligence and academic performance among students is significant and positive. Özhan and Kocadere (2020) concluded that academic engagement in an online learning environment has a very significant effect on motivation. It also increases the flow of academic achievement by increasing academic motivation. Göllner et al. (2017) showed that continuous efforts to do homework increase academic performance and students 'academic conscience is a strong predictor of students' complementary efforts. Students who put more effort into their homework had a higher academic conscience. Kızıldağ, Demirtaş Zorbaz, and Zorbaz (2017) showed that academic engagement is significantly related to peer relationships. Academic engagement was also able to predict academic achievement.

As the research background shows, no research has been done on the effect of spiritual intelligence and academic conscience on students' academic engagement in Iran. Therefore, in this study, the relationship between spiritual intelligence and academic engagement with the mediating role of academic conscience
in female high school students in Zahedan has been investigated. Accordingly, the present study aimed to investigate the relationship between spiritual intelligence and academic engagement with the mediating role of academic conscience.

**Material and Methods**

The present study, in terms of method is descriptive-correlative and in terms of purpose is applied. The statistical population of this study is all female high school students in the second district of Zahedan, Iran. The population in 2021 was equal to 4191 people. The statistical sample of this study was 352 people (128 tenth grade, 120 eleventh grade and 104 twelfth grade) who were selected by stratified random sampling. Three standard questionnaires were used to collect data:

A) **Spiritual Intelligence Questionnaire (SISRI)** (King, 2010): Spiritual Intelligence Questionnaire has 24 questions and 4 subscales (critical existential thinking, creating personal meaning, transcendent awareness and developing the state of consciousness) with a Likert scale of 5 degrees (completely false = zero to completely true = 4). Scoring for the item 6 is inverse. Raghib, Siadat, Hakiminya, and Ahmadi (2010) reported the reliability of this scale using Cronbach's alpha coefficient of 0.88. To calculate the validity of the scale structure, exploratory factor analysis and first-order confirmatory factor analysis were used. The results showed that this scale has good validity and reliability. In the present study, the reliability of this scale was obtained by Cronbach's alpha method equal to .85.

B) **Schoolwork Engagement Inventory (SEI):** Salmela-Aro and Upadaya (2012) Schoolwork Engagement Inventory consisting of 9 items; It is about homework and the three subscales of energy, a sense of commitment and engagement. Participants respond to each item on a seven-point scale from strongly disagree (0) to strongly agree (6). In Salmela-Aro and Upadaya (2012) study, the values of internal consistency coefficient of the total factor of academic engagement and subscales of energy, commitment and engagement were equal to 0.94, 0.82, 0.87, 0.80, respectively. In the present study, the reliability of this scale was obtained by Cronbach's alpha method equal to 0.84.

C) **Academic Conscience Questionnaire:** The Academic Conscience Questionnaire was designed by McIlroy and Bunting (2002). This questionnaire has 9 questions that are set in a seven-point Likert scale. Questions 8, 7, 6, 4, 3, 2, 1 are scored in reverse. The minimum score of this questionnaire is 9, its maximum score is 63 and its cut-off point is 36. McIlroy and Bunting (2002) reported the reliability of this scale with Cronbach's alpha method of 0.89 and its simultaneous validity of 0.35. Fatin et al. (2020) obtained the reliability of this questionnaire by Cronbach's alpha coefficient method of 0.73. In the present study, the reliability of this scale was obtained by Cronbach's alpha method equal to 0.72. To test the research hypotheses, the statistical method of path analysis in AMOS software, version 23 was used.
Results

Mean and standard deviation of research variables are presented in Table 1. Also in Table 2 and Figures 1 and 2 the path coefficients of research model are presented.

Table 1. Descriptive findings related to research variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Min.</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existential critical thinking</td>
<td>352</td>
<td>17.81</td>
<td>6.50</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>Create personal meaning</td>
<td>352</td>
<td>12.64</td>
<td>4.98</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>Transcendent consciousness</td>
<td>352</td>
<td>18.16</td>
<td>7.10</td>
<td>0</td>
<td>28</td>
</tr>
<tr>
<td>Development of consciousness mode</td>
<td>352</td>
<td>12.93</td>
<td>4.71</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>Spiritual Intelligence</td>
<td>352</td>
<td>61.56</td>
<td>22.27</td>
<td>2</td>
<td>93</td>
</tr>
<tr>
<td>Energy</td>
<td>352</td>
<td>9.19</td>
<td>3.38</td>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>A sense of commitment</td>
<td>352</td>
<td>11.74</td>
<td>3.51</td>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>Flow</td>
<td>352</td>
<td>12.43</td>
<td>4.28</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>Academic engagement</td>
<td>352</td>
<td>33.38</td>
<td>9.76</td>
<td>7</td>
<td>50</td>
</tr>
<tr>
<td>Academic conscience</td>
<td>352</td>
<td>35.52</td>
<td>10.96</td>
<td>8</td>
<td>57</td>
</tr>
</tbody>
</table>

Hypothesis 1: There is a direct relationship between spiritual intelligence and academic engagement in female high school students.

Figure 1. The path coefficients of conceptual model of research
Table 2. Estimation of the direct effect and total effect of spiritual intelligence on academic engagement

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Mediator</th>
<th>Dependent variable</th>
<th>Estimation</th>
<th>Direct effect</th>
<th>Indirect effect</th>
<th>Total effect</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spiritual Intelligence</td>
<td>-</td>
<td>Academic engagement</td>
<td></td>
<td>.84</td>
<td>-.001</td>
<td>.84 .001</td>
<td>Confirmed</td>
</tr>
</tbody>
</table>

According to Table 2 and Figure 1 and 2, the coefficient of spiritual intelligence and academic engagement was 0.84. According to the t-value obtained (29.32), this relationship is significant (P <.001), so there is a direct and significant relationship between spiritual intelligence and academic engagement in female high school students.

Hypothesis 2: There is a direct relationship between spiritual intelligence and academic conscience in female high school students.

Table 3. Estimation of the direct effect and total effect of spiritual intelligence on academic conscience

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Mediator</th>
<th>Dependent variable</th>
<th>Estimation</th>
<th>Direct effect</th>
<th>Indirect effect</th>
<th>Total effect</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spiritual Intelligence</td>
<td>academic conscience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to Table 3 and Figure 1 and 2, the coefficient of spiritual intelligence and academic conscience was 0.24. According to the t-value obtained (5.39), this relationship is significant (P <.001), so there is a direct and significant relationship between spiritual intelligence and academic conscience in female high school students.

Hypothesis 3: There is a direct relationship between academic engagement and academic conscience in female high school students.
Table 4. Estimation of the direct effect and total effect of academic engagement on academic conscience

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Mediator</th>
<th>Dependent variable</th>
<th>Estimation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Direct effect</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Academic conscience</td>
<td>Value</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Academic engagement</td>
<td>.24</td>
</tr>
</tbody>
</table>

According to Table 4 and Figure 1 and 2, the coefficient of academic conscience and academic engagement was 0.69. According to the t-value obtained (15.79), this relationship is significant (P <.001), so there is a direct and significant relationship between academic conscience and academic engagement in female high school students.

Hypothesis 4: There is an indirect relationship between spiritual intelligence and academic engagement through the academic conscience in female high school students.

Table 5. Estimation of the indirect effect of spiritual intelligence on academic engagement through the academic conscience

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Mediator</th>
<th>Dependent variable</th>
<th>Estimation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Direct effect</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Academic conscience</td>
<td>Value</td>
</tr>
<tr>
<td>Spiritual intelligence</td>
<td>academic conscience</td>
<td>Academic engagement</td>
<td>.24</td>
</tr>
</tbody>
</table>

According to Table 5 and Figure 1 and 2, the indirect coefficient of spiritual intelligence and academic engagement was 0.16. According to the t-value obtained, this relationship is significant (P <.001), so there is an indirect and significant relationship between spiritual intelligence and academic engagement through the academic conscience in female high school students.

Discussion

The aim of this study was to determine the relationship between spiritual intelligence and academic engagement through the mediating role of academic conscience in female high school students. According to the findings, the first hypothesis that states there is a relationship between spiritual intelligence and academic attraction was confirmed. These results are in line with the findings of Yavari and Lotfi Azimi (2021), Yosefi Afrashte et al. (2021), Naghsh et al. (2019), Turi et al. (2020), Özhan and Kocadere (2020) and Yousefi, Faramarzi, Malekpour, and Yarmohammadian (2019). Academic engagement means the complex understanding of subjects as an opportunity to achieve mastery when engaged in activities of interest, which leads to deep cognitive involvement with the subjects studied and ultimately having a deep approach to study (Sazideh, Afraz, & Samimi, 2019). Academic engagement, which is referred to as a person's desire to achieve educational goals, plays an important...
role in students’ interest in school and education (Özhan & Kocadere, 2020). Spiritual intelligence, on the other hand, is the intelligence through which we solve problems of meaning and values, the intelligence that places our activities and lives in broader, richer, and more meaningful contexts. Intelligence that helps us to understand which action or direction is more meaningful than the other (Bagherinejad, Khayyer, Kazemi, & Samani, 2020; Kian & Ghaderi, 2019). Since academic intelligence and talent as two basic factors in academic achievement, is less influenced by the teacher or coach, efforts are made to maximize the use of intelligence by increasing motivation and creating academic engagement in schools for students. Because in the equal state of intelligence and academic talent of individuals, it has been observed that the academic achievement of students with motivation and academic engagement has been more significant in their success. Therefore, it can be explained that with the increase of spiritual intelligence in students, their engagement and academic activity also increases. The findings also confirmed the second hypothesis that there is a relationship between spiritual intelligence and students’ academic conscience. Turi et al. (2020) and Kızıldağ et al. (2017). Fatin et al. (2020) believe that students with high conscience characteristics work hard, have higher grades, have more positive and committed social relationships. However, people with low academic conscience have poor performance in studies, education and future work (Kabini Moghadam et al., 2019). On the other hand, spiritual intelligence as the ability to act with wisdom and compassion enables people to effectively manage stressful and anxious situations in adverse situations. Explaining the research findings, it can be said that students who have high spiritual intelligence are flexible, more alert and have the ability to face problems and overcome them, thus, their academic conscience increases as well. Findings confirmed the third hypothesis of the study that there is a relationship between academic conscience and academic engagement. This finding is consistent with the results of Naghsh et al. (2019), Kızıldağ et al. (2017) and Özhan and Kocadere (2020). Perkmann et al. (2021) defined academic engagement as the desire to participate in daily activities such as (attending classes, doing homework, and following the instructor’s instructions in class). Some believe that learners are involved in academic assignments only when the assignments require problem-solving skills and high-level thinking skills such as evaluation, critical thinking and creativity (Fazli & Fouladchang, 2019). Academic conscience is also a set of academic motivations, concepts, opinions and beliefs that lead a person to lead and recognize his academic behavior, feelings and goals (Perkmann et al., 2021). Thus, it can be inferred that students with a high academic conscience do their homework thoroughly and seriously, thus increasing their academic engagement.

Finally, the findings confirmed the fourth hypothesis of the study, which showed that spiritual intelligence and academic engagement are related to each other through the mediating role of students’
academic conscience. Findings with the results of Yavari and Lotfi Azimi (2021), Yosefi Afrashte et al. (2021) and Naghsh et al. (2019). While studying, students encounter problematic social and educational situations in the classroom, at home, and in the community that can lead to problems for them. Therefore, academic conscience can lead to success by influencing students' academic performance despite being in stressful, problematic and threatening situations. Meanwhile, high spiritual intelligence and academic engagement in students leads to their academic success.

According to the research results, in order to increase students' academic motivation and academic conscience, it is suggested that educational workshops be held to familiarize teachers with ways to increase students' academic motivation and academic conscience. Also, considering that academic conscience and academic engagement were directly related to spiritual intelligence, it is possible to consider these two variables through the use of appropriate educational methods and planning based on students' abilities to lead to better performance of their spiritual intelligence.

Therefore, caregivers, parents, and educators need to develop strategies to help students increase their academic conscience and motivation. Along with the findings, the present study also had some limitations. The use of a questionnaire and performing the study on Iranian students were the most important limitations of the present study that should be considered in generalizing the findings.

**Conflict of interest:** The authors state no conflict of interest in the study.

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