

Original Article



Predicting depression based on dimensions of social-emotional competence among gifted students

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Abstract

Background: The current study aimed to explore the correlation between depression and various aspects of social-emotional competence in gifted students. The study's statistical population comprised all gifted students enrolled in the National Organization for Development of Exceptional Talents, with the sample consisting of gifted students from this organization in Tehran during the 2020/2021 academic year.

Methods: The statistical population of the current study comprised all gifted students studying in the National Organization for Development of Exceptional Talents, with the sample consisting of gifted students from this organization in Tehran during the 2020/2021 academic year. The Children's Depression Inventory (CDI) and the Social Emotional Competence Questionnaire (SECQ) were utilized as research tools. Data were analyzed using Pearson's correlation and multiple regression methods.

Results: The findings indicate a significant negative correlation between self-awareness and depression, as well as between responsible decision-making and depression among gifted students.

Conclusion: Given the correlation between emotional intelligence, social-emotional competence, and depression, it can be inferred that self-awareness and responsible decision-making are predictive factors for depression among gifted students.

Introduction

Nowadays, the concept of social-emotional competence holds a significant position in psychological and educational research. In recent decades, the emphasis on social-emotional competencies, particularly in the school environment, has been a focal point for researchers.^{1,3} This concept is a crucial objective in the development of children and adolescents.⁴ Social-emotional competence refers to the ability of individuals to manage and navigate through social and emotional experiences in both intrapersonal and interpersonal ways.⁵ Social-emotional competence encompasses a wide range of personal abilities, motivations, and behaviors.⁶ Saarni characterized this construct, emphasizing the internal experience of competence. She claimed that emotional competence is rooted in social interactions. The skills outlined in Saarni's theory encompass self-awareness of emotions, the capacity to perceive and comprehend the emotions of others, proficiency in using emotional vocabulary and expressions, the potential for empathetic involvement, the skill to distinguish between personal emotional experiences and outward emotional expressions, the capability to adaptively cope with aversive emotions and

distressing situations, an understanding of emotional communication within relationships, and the ability for emotional self-efficacy.⁷ In 2013, the Collaborative for Academic, Social, and Emotional Learning (CASEL) defined social-emotional competence through five key abilities. These include self-awareness, self-regulation, social awareness, relationship skills, and responsible decision-making.⁸ Programs implemented in schools that focus on teaching emotional competence demonstrate the significant role emotional skills play in social adjustment.⁹ In this regard, research indicates that poor peer relationships are linked to a negative self-perception pattern, which encompasses feelings of low competence, limited self-efficacy, and modest expectations for social functioning.¹⁰

Studies indicate a significant positive correlation between symptoms of anxiety and depression and unmet social-emotional needs.¹¹ Ciarrochi and Scott's research found that difficulties in identifying and expressing emotions, along with rumination, were predictors of depression, reduced positive affect, and anxiety.¹²

Another study's findings revealed a significant negative correlation between optimism, emotional competence,

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and symptoms of depression. Furthermore, emotional competence was found to enhance the protective effects of optimism against depressive symptoms.

The findings of another study revealed a significant negative correlation between optimism, emotional competence, and symptoms of depression. Furthermore, emotional competence was found to enhance the protective effects of optimism against depressive symptoms.¹³

Following the aforementioned research, Fernandez-Berrocal et al proposed that an excessive emphasis on emotions is significantly positively associated with anxiety, depression, dysfunctional social interaction, and diminished mental health.¹⁴

Studies have shown that adolescents who are mindful of their emotions and can regulate them effectively experience less depression and physical pain. Furthermore, it has been reported that a lack of emotional intelligence can lead to psychological issues, including depression. Moreover, individuals with higher emotional competence tend to experience fewer feelings of hopelessness, depression, and suicidal thoughts.^{15,16}

Renzulli's theory posits that gifted behavior emerges from the interaction of three fundamental human trait clusters: above-average general and/or specific abilities, high levels of task commitment (motivation), and high levels of creativity. Gifted and talented children are those who possess or have the potential to develop this combination of traits and apply them to any potentially valuable area of human performance. The Schoolwide Enrichment Model (SEM) notes that gifted behaviors are observed in certain individuals (not all), at certain times (not always), and under certain circumstances.¹⁷

Gagne's theory, known as the Differentiated Model of Giftedness and Talent, makes a distinct separation between the concepts of giftedness and talent. In this model, giftedness refers to the possession and use of natural abilities (referred to as aptitudes or gifts), which are untrained and spontaneously expressed in at least one ability domain. This places a child within the top 10% of their age peers. On the other hand, talent refers to the superior mastery of systematically developed abilities (or skills) and knowledge in at least one field of human activity. This places a child's achievement within the upper 10% of same-age peers active in that field or fields.

The model identifies five aptitude domains: intellectual, creative, socio-affective, sensorimotor, and "others" (for example, extrasensory perception). These natural abilities, which have a clear genetic basis, can be observed in every task children encounter during their schooling.¹⁸

Depression can lead to a variety of consequences. These include feelings of sadness and a depressed mood, a loss of interest in previously enjoyed activities, changes in appetite leading to weight loss or gain without intentional dieting, sleep disturbances such as difficulty falling asleep or excessive sleep, increased aimless physical activity or slowed movement and speech, feelings of worthlessness

or excessive guilt, thoughts of suicide, and challenges with thinking, concentrating, or making decisions.¹⁹ Depression in children and adolescents can manifest in various ways, such as a fear of attending school, excessive reliance on parents, subpar academic performance, substance abuse, antisocial behaviors, unregulated sexual activities, truancy, and running away from home.^{19,20} Children who are depressed often appear sad, lethargic, or devoid of emotion. They may also complain of physical ailments such as headaches or heartaches, and exhibit a generally unhappy demeanor and moodiness. These are all indicative signs of depression in children. In adolescents, depression can manifest as an irritable or depressed mood, a lack of pleasure in activities, significant psychomotor retardation, delusions, and feelings of helplessness. Additional symptoms can include thoughts of suicide, sleep disturbances, and a decreased ability to concentrate.^{19,21}

Cognitive theory suggests that depression arises due to maladaptive core beliefs that are influenced by early negative experiences. Beck proposed a triad for depression, which consists of:

1. Negative self-views (perceiving oneself in a negative light)
2. Negative worldviews (a tendency to perceive the world in a hostile and anxious manner)
3. Negative future views (anticipating suffering and failure)

According to cognitive theory, the treatment of depression involves the adjustment and correction of these cognitive distortions.²²

The theory of learned helplessness posits that humans develop inherent beliefs leading to a loss of confidence in achieving goals, following exposure to uncontrollable aversive stimuli. This perspective underscores that recovery from depression hinges on the patient's ability to regain a sense of control and mastery over their environment.²³

Development in emotional competence is important in childhood and early adolescence, and it is also important for mental health in late adolescence and adulthood.²⁴ Adolescence is a stage of life that is often associated with an increase in the prevalence of depressive disorders¹³; thus, finding protective factors for depression is an important step towards the development of depression prevention strategies. Emotional intelligence and social-emotional competence can be reliable protective factors to prevent depression.

The primary research areas in the realm of gifted individuals have predominantly centered around topics such as talent, genius, creativity, achievement, and abilities that are above average.^{25,26} and issues related to social-emotional competence and psychopathology. The issue of depression in gifted adolescents, particularly, has been largely neglected. This is surprising given that adolescence is recognized as a period of increased risk for the onset of

depression.¹³ In their research, Francis et al demonstrated that giftedness can be a risk factor for depression among young individuals residing in juvenile detention centers.²⁷ Certainly, this does not imply that giftedness is inherently associated with depression. This is because some studies have found no difference in the prevalence of depression among gifted individuals compared to their peers of average intelligence. Some have even identified giftedness as a protective factor against the onset of depression.²⁸ Concerning the correlation between intelligence and depression, Cross and Andersen have posited that current research can still categorize it as either a risk factor or a protective factor.²⁹

Therefore, it is suggested that further research be conducted to explore the relationship between depression and socio-emotional factors in gifted adolescents, proposing it as a novel field of study.

In general, the study of psychopathology in gifted individuals is significant per se, as it aids in understanding the nature and predictive variables of depression within this group. Moreover, predicting depression based on socio-emotional competence in gifted individuals allows us to identify the underlying factors of depression in this population. This research lays the groundwork for experimental studies and the development of intervention protocols tailored to the gifted population. Additionally, several studies have affirmed that adolescence is a period associated with an increased risk of depression among gifted individuals 7 of 30.^{13,30} Addressing the issue of depression during adolescence and identifying the socio-emotional variables associated with it in gifted individuals are both important and necessary.

Given the significance of socio-emotional competence during adolescence, particularly among gifted students, and the need to explore the relationship between these variables and depression, this study aims to investigate the correlation between depression and the dimensions of socio-emotional competence (self-awareness, social awareness, interpersonal relationships, responsible decision-making, and self-management) among gifted students. Furthermore, this study seeks to determine the overall depression score based on the dimensions of socio-emotional competence among gifted students.

To achieve these objectives, this study will examine whether a relationship exists between depression and the dimensions of socio-emotional competence among gifted students, and assess the contribution of the dimensions of socio-emotional competence in predicting depression.

Materials and Methods

The statistical population of the current study encompassed all gifted students studying in the National Organization for Development of Exceptional Talents in Tehran. For cluster sampling, eight schools (four girls' schools and four boys' schools) were randomly selected from the 33 centers for the development of exceptional talents in Tehran (16

for boys and 17 for girls), which are spread across the city's 22 districts then, the Children's Depression Inventory (CDI) and Social Emotional Competence Questionnaire (SECQ) were administered to all 9th-grade high school gifted students in these selected centers. Ultimately, a total of 155 gifted students (80 girls and 75 boys) participated in the study. The 9th grade was selected to control for differences in students' fields of study and to align the age level of the research participants with the characteristics of the measurement instruments.

To adhere to ethical principles, participants were provided with a comprehensive explanation of the research objectives. They were assured that their personal information would be used solely for research purposes and would remain confidential.

Social Emotional Competence Questionnaire

The questionnaire, developed by Zhou and Ee in 2012, consists of 25 items that assess the dimensions of self-awareness, social awareness, self-management, interpersonal relationships, and responsible decision-making. This questionnaire was validated in Iran by Emamgholivand, Kadivar, and Pashasharifi. For scoring the SECQ, students are assigned scores as follows: 6 for 'completely agree', 5 for 'agree', 4 for 'to some extent', 3 for 'somewhat disagree', 2 for 'disagree', and 1 for 'completely disagree'.

The questionnaire, developed by Zhou and Ee³¹ in 2012, consists of 25 items that assess the dimensions of self-awareness, social awareness, self-management, interpersonal relationships, and responsible decision-making.

Emamgholivand and his team determined the Cronbach's alpha coefficients for the dimensions of the SECQ, which ranged from 0.78 to 0.80. The total score of the questionnaire had a Cronbach's alpha coefficient of 0.87. Furthermore, they found the test-retest reliability of the SECQ to range from .64 to .99 for the questionnaire's dimensions and .86 for the total score of the questionnaire.³²

In this study, the Cronbach's alpha coefficients for the dimensions of the SECQ were calculated as follows: self-awareness 0.73, social awareness 0.80, self-management 0.88, interpersonal relationships .60, and responsible decision-making 0.85. Furthermore, the Cronbach's alpha coefficient for the total score of the SECQ was found to be 0.86 (Table 1).

In this study, the validity of the SECQ was determined by calculating the correlation coefficients between each dimension of the questionnaire and the total score. Specifically, the correlation coefficients between the total SECQ score and the dimensions of self-awareness, social awareness, self-management, interpersonal relationships, and responsible decision-making were 0.66, 0.62, 0.75, 0.61, and 0.62, respectively ($P < 0.01$). The CDI is a questionnaire developed by Kovacs³³ to assess the behavioral, cognitive, and emotional symptoms of

depression in children and adolescents aged 7 to 17 years. The CDI uses a scoring system ranging from 0 to 2, where a score of 0 signifies no depression, 1 indicates mild to moderate depression, and 2 signifies severe depression. The original CDI consists of 27 items.³³

In this study, the validity of the inventory was evaluated using the internal consistency method. However, items 2, 19, and 26 were excluded from the original questionnaire due to their low correlation coefficient. Therefore, a total of 24 items were utilized to measure depression among the gifted students.³⁴ Fountoulakis and colleagues³⁵ reported a Cronbach's alpha of .95 for this scale, with test-retest reliability ranging from 0.45 to 0.95 for individual questions and 0.71 for the total score of the inventory. In Iran, Rajabi and Attari³⁶ found a Cronbach's alpha of 0.88 for the entire scale and a test-retest reliability of 0.81.

Donnelly and Wilson³⁷ reported the internal consistency of the CDI as 0.80 and found that the correlation of the total items ranged from 0.20 to 0.50. In 2009, Dehshiri et al³⁸ reported the test-retest reliability coefficient of the inventory as 0.82 and the internal consistency of this inventory as 0.83.

In this investigation, Cronbach's alpha coefficient for CDI was found to be 0.83 (Table 1). Furthermore, item analysis revealed CDI to be a valid instrument for measuring depression in gifted students. The correlation coefficients between the items and the total CDI score ranged from 0.31 to 0.61 ($P < 0.001$).

Results

Descriptive statistics for the dimensions of social-emotional competence and depression are presented in Table 1. The results indicate that the highest mean and standard deviation values for the social-emotional competence variable were found in the responsible decision-making component ($M = 25.23$; $SD = 3.36$). Conversely, the lowest values were observed in the self-management component (Mean = 19.67; $SD = 5.49$). The mean and standard deviation of the depression variable were found to be 9.48 and 2.34, respectively.

Table 2 illustrates the correlation matrix that delineates the relationship between the dimensions of social-emotional competence and depression.

Positive correlations were observed between self-awareness and social awareness ($r = 0.27$, $P < 0.001$), self-awareness and self-management ($r = 0.42$, $P < 0.001$), self-awareness and interpersonal relationships

($r = 0.19$, $P < 0.05$), and self-awareness and responsible decision-making ($r = 0.38$, $P < 0.001$). Similarly, positive correlations were found between social awareness and self-management ($r = 0.20$, $P < 0.05$), social awareness and interpersonal relationships ($r = 0.19$, $P < 0.05$), social awareness and responsible decision-making ($r = 0.18$, $P < 0.05$), self-management and interpersonal relationships ($r = 0.36$, $P < 0.001$), self-management and responsible decision-making ($r = 0.27$, $P < 0.001$), and interpersonal relationships and responsible decision-making ($r = 0.37$, $P < 0.001$).

Moreover, the correlation coefficients between the dimensions of the SECQ and the total score of the CDI are presented in Table 2. Negative correlations were found between all dimensions of social-emotional competence and depression. Specifically, significant negative correlations were found between self-awareness, self-management, responsible decision-making, and depression, with values ranging from -0.23 to -0.36 ($P < 0.001$).

The results of the multiple regression analysis, as summarized in Table 3, indicate that self-awareness ($\beta = -0.23$, $t = -2.63$, $P < 0.009$) and responsible decision-making ($\beta = -0.26$, $t = -3.009$, $P < 0.003$) are significant predictors of depression among gifted students. These

Table 1. Mean, standard deviation, and internal consistency (n = 155)

Dimensions	Mean	SD	α
Self-Awareness	19.92	2.9	0.73
Social awareness	24.83	4.68	0.80
Self-management	19.67	5.49	0.88
Interpersonal relationship	24.40	3.17	0.60
Responsible decision-making	25.23	3.36	0.85
Depression	9.48	6.21	0.83

SD, standard deviation.

Table 2. Correlation matrix between dimensions of social-emotional competence and depression

Dimensions	1	2	3	4	5
1. Self-Awareness					
2. Social awareness	0.27**				
3. Self-management	0.42**	0.20*			
4. Interpersonal relationship	0.19*	0.19*	0.36**		
5. Responsible decision-making	0.38**	0.18*	0.27**	0.37**	
6. Depression	-0.35**	-0.11	-0.23**	-0.15	-0.36**

** $P < 0.001$; * $P < 0.05$

Table 3. Regression of depression on dimensions of social-emotional competence

Predictive variable	F	R	R ²	B	SE	β	t	P
Self-awareness				-0.49	0.19	-0.23	-2.63	0.009
Social awareness				0.01	0.10	0.08	0.11	0.91
Self-management	6.80	0.43	0.19	-0.08	0.10	-0.07	-0.84	0.40
Interpersonal relationships				0.03	0.17	0.01	0.16	0.87
Responsible decision-making				-0.47	0.16	-0.26	-3.009	0.003

dimensions collectively account for 19% of the variance in predicting depression ($R^2 = 0.19$, $f = 6.80$, $P < 0.0001$).

Discussion

Pearson's correlation analysis revealed a significant negative correlation between self-awareness and responsible decision-making with depression among gifted students. These findings align with the results of previous studies.^{11,13,39}

Individuals with high emotional competence are often observed to employ a wider range of active coping strategies, which can help mitigate distress and depression.⁴⁰ Individuals with higher emotional competence often benefit from more consistent social support, enhancing their resilience against depression. In contrast, those lacking social-emotional skills may behave in ways that induce feelings of incompetence in their peers, teachers, and parents, increasing their likelihood of rejection. Given that negative self-perceptions are a common trait among individuals with depression, it appears that those with low social-emotional competence may employ ineffective social-emotional strategies, leading to the development of negative self-beliefs and accompanying symptoms of depression.

The findings indicate a significant negative correlation between self-awareness and depression among gifted students. These results are consistent with those of previous studies.^{41,42,43}

Self-awareness encompasses the ability to recognize and understand one's strengths and weaknesses, and how they influence one's performance. Students who possess a keen awareness of their emotional strengths and weaknesses are more likely to identify their emotional states and understand their origins. Such students, cognizant of their emotions, are often better equipped to exercise self-control over their feelings. Consequently, they are more likely to assume responsibility for decision-making throughout their lives.⁴⁴

Individuals with low emotional awareness often struggle to recognize their feelings. This difficulty in processing and regulating emotions can lead to an increased experience of negative emotions. As Gratz and Roemer⁴¹ suggest, individuals lacking self-awareness are often unable to accept their negative emotions.

Individuals with a heightened awareness of their emotions typically possess more effective skills for managing emotional challenges, leading to improved mental health. Consequently, they tend to expend less time and energy in stressful situations, as they are better equipped to recognize and address emotional problems.^{42,45}

Enhancing emotional awareness and comprehension, along with utilizing emotions to boost self-understanding and performance, is linked to a decrease in depressive symptoms among adolescents.⁴³

Moreover, the findings of this study indicated a significant negative correlation between responsible

decision-making and depression in gifted students. The results obtained align with those of previous studies.^{11,13,39} Responsible decision-making refers to the ability to make constructive choices about personal and social behavior, guided by ethical and societal standards.

Decision-making skills are closely related to problem-solving skills and abilities which include accurately assessing situations, reacting positively to situations, identifying and clarifying issues through self-reflection strategies, and adhering to social and moral norms.⁴⁶ Responsible decision-making skill empowers children and adolescents to make innovative and respectful decisions about their behavior and social interactions, following ethical, societal, and behavioral norms.

Hall and DiPerna⁴⁷ observed that students proficient in social-emotional competencies often maintain positive relationships with teachers and peers. Such students are more inclined to participate confidently in learning activities and demonstrate resilience when confronted with challenges.

Conclusion

Based on the findings of this study, self-awareness, and responsible decision-making can predict depression among gifted students. The results obtained align with those of several studies^{13,15,16,24,39,40,44} that explore the relationship between emotional intelligence, social-emotional competence, and depression.

Individuals with advanced social-emotional skills assist others in positively managing their emotions and strive to establish rapport. This behavior fosters stronger friendships and increased social support, providing psychological advantages during periods of distress and crisis. Social support can serve as a crucial protective factor against stress and depression.

Self-awareness and responsible decision-making, which allow individuals to identify and control emotions during a crisis separate from the issue at hand, can mitigate the adverse effects of a challenging situation. Therefore, these skills can enable the cognitive and emotional processes required for adaptation. A lack of self-awareness and responsible decision-making can lead to a negative problem-solving orientation, resulting in heightened worries and feelings of helplessness.

Limitations

In this study, the gifted students were not administered an intelligence test. Performing such a test among these students could help more accurately determine their range of intelligence. It is recommended that a valid intelligence test be carried out among gifted students to examine and control the effect of their IQ on social-emotional competence and depression.

Suggestions

The findings of this research indicate that depression

diminishes as social competence beliefs increase. Thus, strengthening competence beliefs, particularly self-awareness and responsible decision-making, can aid in reducing depression among gifted students. In addition to educating students on this matter, it is also advisable to raise awareness among parents, counselors, and teachers through educational workshops. Given the observed negative correlation between self-awareness, responsible decision-making, and depression, it is recommended that clinicians and specialists in gifted education consider the significant role of these factors when developing intervention protocols to alleviate depression in gifted adolescents. Furthermore, future research could explore mediating factors, such as self-regulation strategies, between competence beliefs and depression, as well as other mental health issues.

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Competing Interests

The authors declare no conflict of interest.

Ethical Approval

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