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Depressive Symptoms and Self-Esteem in Moroccan School Children: Public Health Implications from a Cross-Sectional Study

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ABSTRACT

Background: The depressive state negatively affects self-esteem, particularly among younger age groups. This study aims to explore how depression affects self-esteem in children attending a primary school in Kenitra.
Objective: This study aims to examine the effects of depressive states on self-esteem, in order to better understand the complex relationship that exists between these two dimensions of mental health.
Methods: Our sample included 205 students (108 boys and 97 girls), aged 8 to 14 years, ranging from 3rd to 6th grade, from a primary school in Kenitra. To assess self-esteem, the Toulouse Self-Esteem Scale (ETES) was adopted, while the Children's Depression Inventory (CDI) was used to evaluate levels of depression.
Results: Results shows that the children generally hold a positive self-image, with an average self-esteem score of 206.6 out of 300 (ranging from 138 to 264). However, as children grow older, self-esteem tends to decline. Girls consistently report lower self-esteem than boys throughout the age range. In terms of depression, both boys (17.08) and girls (16.91) scored below the clinical threshold of 19. Nonetheless, girls showed slightly higher overall rates of depression. While boys exhibited marginally lower scores, we observed that their depressive symptoms often emerge through irritability or aggression rather than sadness signaling an important area for attentions.
Conclusion : This research highlights the particularly adverse impact of depressive states on the self-esteem of primary school students.

Keywords: Depressive State, Public Health Implication, School Children, Self-Esteem, Morocco.

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INTRODUCTION

Depression is a complex mental disorder affecting millions of people worldwide.[1,2] It is characterized by prolonged periods of sadness, hopelessness, and a loss of interest in usual activities.[3,4] In addition to these symptoms, depression significantly impairs social, professional, and personal functioning. [5] Beyond emotional disturbances, depression is often accompanied by low self-esteem ,[6,7] further intensifying the psychological distress experienced by individuals.[8]
As in many other countries, depression in Morocco has a profound impact on individuals' self-esteem. It can affect anyone, regardless of age or background. [9] Among primary school students in Morocco, depression though often less recognized in children than in adults [10] can still considerably weaken their self-confidence. During this critical developmental phase, low self-esteem, whether caused by depression or contributing to it, can negatively influence a child's social, emotional, and academic growth. Indeed, depression is a complex mental disorder characterized by prolonged episodes of sadness and a marked disinterest in usual activities. In addition to emotional symptoms, it also manifests through vegetative signs such as sleep disturbances and major psychological symptoms, including feelings of guilt, unworthiness, and low self-esteem.

The study conducted by Li et al. (2025)[13] allows for the theorization of the existence of two types of depression: endogenous, mainly caused by biological dysfunctions, and exogenous, resulting from external stress. However, recent research suggests a continuum between these two types of depression, where only the intensity of the symptoms differs.[14]
In the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5), the diagnostic criteria for a major depressive episode have been modified compared to the DSM-IV, notably by the removal of the bereavement exclusion criterion.

Yao et al. (2021)[15] presents five categories of depression: emotional, cognitive, motivational, vegetative, and physical. The term emotional manifestation refers to changes in the patient's feelings or changes in their behavior directly attributable to their emotional state. Emotional manifestations include depressive mood, self-hatred, loss of gratification, loss of attachment, crying spells, and loss of the pleasure response. The physical and vegetative manifestations of depression include loss of appetite, sleep disturbances, loss of libido, and significant fatigue. Finally, the cognitive manifestations of depression refer to low self-esteem, indecision, distorted self-image, loss of motivation, and suicidal thoughts.

Furthermore, the core symptoms of depression remain relatively consistent across age groups, though specific expressions may vary depending on life stage.[16] Historically, depression was not widely acknowledged as a condition affecting children. Early psychological theories argued that children lacked the emotional depth to experience depressive disorders comparable to those observed in adults. [17] According to psychoanalytic theory of the time, depression was believed to be impossible before adolescence, a developmental stage during which the superego becomes more fully formed and internalized.[18]

The second phase of reflection proposes that a child can indeed develop depression which, in addition to the typical symptoms seen in adults, also presents specific manifestations unique to children.[19,20] The third perspective is quite similar to the previous one. It argues that depression in children is significantly different from adult depression, referring to it as masked depression .[21] Finally, over the past two decades, a fourth viewpoint has emerged that acknowledges the existence of depression in children. This theory allows for the application of the fundamental criteria used for diagnosing depression in adults to children and adolescents.[22]

However, children are frequently exposed to stressful circumstances that can significantly disrupt their psychosocial development, particularly when such stressors are chronic or occur without the buffering presence of supportive caregivers.[23] According to Shengyao et al. (2024),[24] some children respond to such challenges with perseverance and motivation, actively seeking solutions to their problems. Others, however, fall into what is referred to as "learned helplessness." These children adopt a fatalistic outlook, become passive, relinquish their motivation and enthusiasm for taking on new challenges, and exhibit a pessimistic attitude toward their ability to succeed.[25]

Recent research has identified several potential risk factors associated with the onset of affective disorders in children. For example, early stressful experiences, such as trauma or familial disruptions, have been shown to play a critical role in the development of learned helplessness.[26] These findings suggest that adverse life events in early childhood can significantly influence how children cope with future challenges. Additionally, genetic studies have revealed specific variants linked to increased vulnerability to depressive symptoms in youth, lending support to the hypothesis of a genetic

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contribution to early-onset depression.[27] Furthermore, longitudinal evidence highlights the influence of familial and social environments on children's emotional well-being. Children raised in unstable households or exposed to ongoing parental conflict are markedly more likely to exhibit depressive symptoms during adolescence,[28] underscoring the pivotal role of environmental stressors in shaping emotional development.

Moreover, there is a relationship between self-esteem and depression, several studies underscore the multifaceted nature of childhood depression, highlighting the interplay of psychological, social, and biological factors. Low self-esteem has emerged as a central contributor to the onset of depressive symptoms,[29] especially under stressful conditions. Findings indicate that children with low self-esteem tend to have fewer adaptive resources when confronted with adverse life events, which increases their vulnerability to depression.[30] In contrast, those with higher self-esteem appear more resilient due to stronger psychological coping mechanisms. Additionally, support from parents and peers plays a crucial moderating role in this relationship. Evidence shows that such support can buffer the negative effects of low self-esteem on emotional health, emphasizing the protective impact of strong interpersonal connections.[31]

Accordingly, this research aims to explore the effects of depressive states on self-esteem. By examining existing literature, the goal is to better understand the intricate relationship between these two aspects of mental health. This study also considers age-related variations in how depressive symptoms and self-esteem manifest, as well as the underlying mechanisms that may explain this connection.

MATERIALS AND METHODS

Study Area : Occupying an area of 76 km², Kénitra is one of the main Moroccan cities, ensuring the connection between the northern localities and the national capital. It is located at coordinates 34° 15' 00" north and 6° 35' 00" west. Furthermore, this city is situated on the south bank of the Sebou River, 12 km from its mouth into the Atlantic Ocean towards Mehdia, and about 35 km from Rabat.

Participants: The sample consisted of 205 students, including 108 boys and 97 girls, enrolled from the 3rd to the 6th grades of a 3 primary school in Kenitra. Their ages ranged from 8 to 14 years. The sample was selected randomly.

Study Instrument: We used the Toulouse Self-Esteem Scale (ETES), a multidimensional self-esteem scale originally developed in French,[32] to evaluate self-esteem. This instrument explores emotional, social, physical, and future-oriented aspects of self-perception.

To assess depressive symptoms, we used the Children's Depression Inventory (CDI), designed for children aged 7 to 17 years.[33] We based our translation on the validated French version of the CDI.[34] To ensure relevance for our target population, both the ETES and CDI were translated into Arabic, following procedures aimed at maintaining semantic and cultural equivalence.

Research Ethics Statement: First, official authorization to conduct data collection over a two-week period between December 21 and January 7, 2021, was obtained from the Provincial Delegation of National Education and Vocational Training in Kenitra.
Following this approval, the principal of the participating school was informed of the study objectives and the scheduled date for questionnaire administration, and they subsequently shared this information with the relevant teaching staff.
Finally, consent forms were distributed to parents outlining the nature and scope of the study and the types of questions involved. Students were allowed to participate only after written consent was received from their parents.

Procedure: On the evaluation days, assessments were organized into seven separate class sessions: one for 3AEP, two for 4AEP, two for 5AEP, and two for 6AEP. Each evaluation lasted thirty minutes and was conducted in group settings.
During each session:
•Documents were distributed and students were asked to write their names for tracking purposes.
•Instructions and topics were explained clearly.
•Emphasis was placed on confidentiality and participants' rights.
•Questions were reviewed individually to maintain flow and clarity.
•Teachers were present to support students throughout the process.
After all evaluations were completed:
•Invalid documents (those with multiple responses for the same question) were filtered out.
•Data entry was performed using Microsoft Excel.
•Statistical analysis was conducted using the SPSS software.

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RESULTS

The study population consisted of 205 students, of whom 53% (n = 108) were male and 47% (n = 97) were female. This indicates a slightly unequal sex ratio of 1.11 in favor of males. These proportions were used to contextualize gender-based analyses throughout the study.

The average age of participants was 10.37 years (SD = ±1.42), with ages ranging from 8 to 14 years. Skewness and kurtosis coefficients confirmed that the age distribution followed a normal (Gaussian) pattern, supporting the use of parametric statistical procedures in subsequent analyses.

Distribution of Children's Depression Inventory (CDI) Scores

Based on the threshold value of 19 on the Children's Depression Inventory (CDI), 69% of students (n = 141) were classified as having low depressive symptoms, while 31% (n = 64) were categorized as having high depressive symptoms. This distribution highlights the relevance of examining demographic factors associated with elevated CDI scores.

Table 1. Descriptive Statistics for the Five Dimensions of the Toulouse Self-Esteem Scale (ETES) and the Total Score of the Children's Depression Inventory (CDI)

Dimension / Inventory	N	Mean	Median	Min	Max	Std. Error	Std. Dev.	Skewness	Kurtosis
School self	205	41.54	42.0	20	60	0.53	7.63	–0.247	–0.17
Physical self	205	41.31	41.0	20	56	0.49	7.09	–0.411	–0.212
Projective self	205	41.06	42.0	24	56	0.41	5.95	–0.228	–0.12
Social self	205	40.69	41.0	24	55	0.40	5.86	–0.411	0.050
Emotional self	205	42.02	43.0	16	58	0.46	6.77	–0.450	0.64
CDI total score	205	17.06	16.0	4.0	41.0	0.52	7.51	0.638	–0.042

Descriptive statistics were computed for the five dimensions of the Toulouse Self-Esteem Scale (ETES) and the total score of the Children's Depression Inventory (CDI) to examine general trends within the sample (table. 1). For each variable, measures of central tendency (mean, median) and dispersion (standard deviation, minimum, maximum) were reported. Distribution normality was assessed using skewness and kurtosis coefficients. According to established psychometric guidelines, a distribution is considered approximately normal when skewness values fall between –1 and +1, and kurtosis values between –3 and +3.

All ETES dimensions and the CDI score met these criteria, indicating that the data are normally distributed. The ETES scores were relatively consistent across dimensions, with means ranging from 40.69 to 42.02. The CDI scores exhibited greater variability, with a mean of 17.06 and a median of 16.0, suggesting moderate levels of depressive symptoms among participants. These findings support the suitability of parametric statistical analyses for subsequent inferential procedures.

Table 2. Gender differences and Age correlations across the five dimensions of the Toulouse Self-Esteem Scale (ETES)

Dimension	Gender			Age	
	Male	Female	p-value	Pearson r	Sig. (2-tailed)
Physical self-esteem	41.59	41.47	0.003 **	–0.192 **	0.006
Academic self-esteem	41.27	41.29	0.307	–0.155 *	0.027
Social self-esteem	41.06	41.00	< .001 **	–0.216 **	0.002
Emotional self-esteem	40.68	40.66	0.762	–0.264 **	< 0.001
Projective self-esteem	42.03	41.99	0.395	–0.264 **	< 0.001

* The correlation is significant at the 0.05 level (two-tailed).
** The correlation is significant at the 0.01 level (two-tailed).

Analyses were conducted to examine the relationship between self-esteem dimensions and two demographic variables: gender and age (table.2). Mean scores for each of the five dimensions of the Toulouse Self-Esteem Scale (ETES) were compared across gender groups using one-way ANOVA. Results indicated statistically significant gender differences in

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physical self-esteem (F = 8.78, p = .003) and social self-esteem (p < .001), with males reporting slightly higher scores in both domains. No significant differences were observed for academic, emotional, or projective self-esteem.
Additionally, Pearson correlation analyses revealed significant negative associations between age and all five self-esteem dimensions. Younger participants tended to report higher self-esteem scores across domains, with the strongest correlations observed for social and emotional self-esteem (r = –.264, p < .001). These findings suggest that both gender and age contribute meaningfully to variations in self-perceived competencies among school-aged children.

Table 3. ANOVA summary of the relationship between CDI Scores, age, and gender

Variable	Group Comparison	Sum of squares	ddl	Mean square	Mean Score	F-value	p-value
Age	Inter-groups	104.883	34	3.085	—	1.709	0.014 *
	Intra-groups	306.819	170	1.805	—		
Gender	Female	—	—	—	17.08	8.082	0.050 *
	Male	—	—	—	16.91		

To examine the influence of demographic factors on depressive symptoms, two separate analyses of variance (ANOVA) were conducted using scores from the Children's Depression Inventory (CDI). The first analysis assessed the relationship between age and depression scores. Results revealed a statistically significant effect (F = 1.709, p = 0.014) (table.3), suggesting a positive association between age and depressive symptoms-older children tended to report higher levels of depression. The second analysis compared CDI scores across gender. A significant difference was observed (F = 8.082, p = .050), with females reporting slightly higher average depression scores (M = 17.08) than males (M = 16.91). These findings highlight the relevance of age and gender in understanding variations in depressive states among school-aged children.

Table 4. Pearson correlation matrix between Self-esteem dimensions and depressive symptoms (CDI Scores)

Variable		School Self esteem	Physical Self esteem	Projective Self esteem	Social Self esteem	Emotional Self esteem	DCI	Total Score
School Self esteem	Pearson correlation	1	0.486**	0.308**	0.374**	0.491**	-0.379**	0.824**
	Sig. (two-tailed)		0.000	0.000	0.000	0.000	0.000	0.000
	N	205	205	205	205	205	205	205
Physical Self esteem	Pearson correlation	0.486**	1	0.246**	0.390**	0.505**	-0.335**	0.783**
	Sig. (two-tailed)	0.000		0.000	0.000	0.000	0.000	0.000
	N	205	205	205	205	205	205	205
Projective Self esteem	Pearson correlation	0.308**	0.246**	1	0.477**	0.433**	-0.275**	0.641**
	Sig. (two-tailed)	0.000	0.000		0.000	0.000	0.000	0.000
	N	205	205	205	205	205	205	205
Social Self esteem	Pearson correlation	0.374**	0.390**	0.477**	1	0.285**	-0.263**	0.540**
	Sig. (two-tailed)	0.000	0.000	0.000		0.000	0.000	0.000
	N	205	205	205	205	205	205	205
Emotional Self esteem	Pearson correlation	0.491**	0.505**	0.433**	0.285**	1	-0.470**	0.632**
	Sig. (two-tailed)	0.000	0.000	0.000	0.000		0.000	0.000
	N	205	205	205	205	205	205	205
DCI	Pearson correlation	-0.379**	-0.335**	-0.275**	-0.263**	-0.470**	1	-0.441**
	Sig. (two-tailed)	0.000	0.000	0.000	0.000	0.000		0.000
	N	205	205	205	205	205	205	205
Total Score	Pearson correlation	0.824**	0.783**	0.641**	0.540**	0.632**	-0.441**	1
	Sig. (two-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	
	N	205	205	205	205	205	205	205

* The correlation is significant at the 0.05 level (two-tailed).
** The correlation is significant at the 0.01 level (two-tailed).
Correlation analyses were conducted between the various scales employed in this study (table 4). The findings demonstrate a statistically significant negative correlation between global self-esteem including its components (social, academic, physical, emotional, and projective), and depressive state (r = -0.441; p < 0.01).

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DISCUSSION

The evolution of self-concept across developmental stages has been widely examined in the literature, with numerous studies addressing variations in self-esteem over time. According to Orth et al. (2018), [35] self-esteem fluctuates across age groups, with declines most notable during adolescence. This pattern is supported by the work of Chen (2019), [36] who observed significant variations in children's self-esteem as they mature. However, the literature displays considerable heterogeneity in findings. Some studies report stable levels of self-esteem in early childhood, [37] while others suggest a gradual increase as children gain a deeper understanding of their self-worth and the dimensions of self-concept. [38] These contrasting findings may be attributed to inter-individual differences in cognitive and socio-emotional development, as well as the influence of familial and educational contexts on children's self-perception. As children develop a greater capacity for reflection and comprehension of issues related to self-confidence, their responses become more nuanced and aligned with personal experience. [39]

With regard to self-esteem by gender, our results reveal a statistically significant difference in self-esteem scores between boys and girls, with girls consistently reporting lower levels of self-esteem. This trend is reflected in numerous studies conducted across various cultural contexts. For example, Charmaraman et al. (2025) [40] emphasize this gender disparity, which is further supported by Smith et al. (2017), [41] who documented significantly lower self-esteem levels among girls in the United States. Similarly, Son et al. (2025) [31] observed higher self-esteem scores among boys compared to girls in a South Korean sample.

In relation to depression, our descriptive findings indicate that the average CDI scores were 16.91 for girls and 17.08 for boys, with an overall mean of 17.06. All of these averages fall below the clinical cutoff of 19 used to identify depressive symptoms according to the Children's Depression Inventory.

Variance analyses further support the gender differences observed in depression scores, demonstrating that girls exhibit significantly higher levels of depression than boys. These findings are consistent with existing literature, which highlights the tendency among girls to express internalized symptoms such as anxiety, eating disorders, somatic complaints, and depressive disorders.[42] It is important to note, however, that while boys in our sample show lower average depression scores, a notable proportion still present scores warranting attention. Depression in children may manifest differently than in adults, often through irritability or aggressive behavior rather than overt sadness.[43] Cristofani et al. (2023) [44] confirm that depressive symptoms in boys may present as externalized behaviors, such as aggression or conduct disorders.

Our investigation into the relationship between age and depressive symptoms indicates a meaningful age-related trend. Older students are more likely to exhibit elevated depression scores than younger ones. These findings are in line with prior research demonstrating increases in depression diagnoses and symptom severity among children and adolescents as they age.[45] Studies by Rong et al. (2024) [46] and Yan et al. (2024) [47] similarly report rising prevalence rates of depressive disorders with increasing age.

Additionally, our results show a significant association between self-esteem and depressive symptoms. Lower total self-esteem scores are consistently linked to higher levels of depression. This correlation aligns with findings from Zaccaria et al. (2025),[48] who reported that intellectually gifted children with lower total and social self-esteem are more likely to exhibit symptoms of depression, hyperactivity, and general psychopathology. Further support comes from studies by Wen et al. (2021 [49] and Mereish et al. (2022),[50] which suggest that individuals with low self-esteem may be more vulnerable to depression due to limited adaptive resources. In a related study, Smith et al. (2017)[41] found a significant correlation between low self-esteem and depressive symptoms among adolescents, reinforcing a potential causal relationship. Moreover, a meta-analysis by van Tuijl. (2018) [51] confirmed that low self-esteem frequently precedes the onset of depression, lending additional support to the hypothesis that self-esteem plays a predictive role in the development of depressive disorders.

Study Limitations: The study's limitations are acknowledged, and potential directions for future research are suggested. Ultimately, this work contributes

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to a deeper understanding of the interplay between self-esteem and depression in children and has implications for future inquiry and policy development in child psychology and education.

Study strengths

- Efficiency and speed: A cross-sectional study allows data collection at a single point in time, making it faster and less costly compared to longitudinal studies requiring follow-up over an extended period.
- Ease of implementation: Data collection, usually carried out using questionnaires, is relatively easy and can be conducted simultaneously with a large number of students.

Implications of the findings of the study

- The results obtained are of paramount importance for public health, as they allow for assessing the extent of depression and its effects on self-esteem.

CONCLUSIONS

This study underscores the significantly negative impact of depressive states on the self-esteem of primary school students. Symptoms such as persistent sadness, diminished interest, and pervasive guilt undermine children's sense of personal worth and competence. This decline in self-esteem may manifest as reduced confidence in academic and social domains, heightened sensitivity to criticism, and increased tendencies toward social withdrawal. Early detection and intervention in cases of psychological distress are essential. Enhancing self-esteem and promoting psychological well-being among students requires a multifaceted approach involving a nurturing educational environment, targeted psychological support, and active collaboration among families, educators, and mental health professionals. Failure to address the effects of depression on self-esteem can have lasting repercussions on children's emotional, social, and academic development.

Declarations

Authors' Contribution: Author 1: Conceptualization, data collection, methodology, writing, and final revision of the manuscript. Author 2: Data collection, descriptive analysis, and manuscript translation. Author 3: Data collection, interpretation of results, and critical revision of the manuscript. Author 4: Statistical analysis and interpretation of results. Author 5: Scientific supervision, project guidance, final validation, and manuscript approval.

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REFERENCES

1. Santomauro DF, Herrera AMM, Shadid J, Zheng P, Ashbaugh C, Pigott DM, et al. Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic. Lancet. 2021;398(10312):1700–12. doi.org/10.1016/S0140-6736 (21) 02143-7
2. Marx W, Penninx BW, Solmi M, Furukawa TA, Firth J, Carvalho AF, Berk M. Major depressive disorder. Nat Rev Dis Primers. 2023;9(1):44. doi.org/10.1038/s41572-023-00454-1
3. Olaoluwa SA. Applying cognitive therapy for depression and anxiety in mathematics education for students' sustainable performance. Creat Educ. 2021;12(6):1407–18. doi.org/10.4236/ce.2021.126107
4. Qayyum A, Razzak I, Tanveer M, Mazher M, Alhaqbani B. High-density electroencephalography and speech signal based deep framework for clinical depression diagnosis. IEEE/ACM Trans Comput Biol Bioinform. 2023;20(4):2587–97. doi.org/10.1109/TCBB.2023.3257175
5. Rashid S, Qureshi AG, Noor TA, Yaseen K, Sheikh MAA, Malik M, et al. Anxiety and depression in heart failure: an updated review. Curr Probl Cardiol. 2023;48(11):101987. doi.org/10.1016/j.cpcardiol.2023.101987
6. Hasani S, Aung E, Mirghafourvand M. Low self-esteem is related to depression and anxiety during recovery from an ectopic pregnancy. BMC Womens Health. 2021; 21:1–8. doi.org/10.1186/s12905-021-01467-2
7. Shah SM, Nowshad G, Dhaheri FA, Al-Shamsi MH, Al-Ketbi AM, Galadari A, et al. Child maltreatment and neglect in the United Arab Emirates and relationship with low self-esteem and symptoms of depression. Int Rev Psychiatry. 2021;33(3):326–36. doi.org/10.1080/09540261.2021.1895086

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8. Vashist SK, Schneider EM. Depression: an insight and need for personalized psychological stress monitoring and management. J Basic Appl Sci. 2014; 10:177–82. doi.org/10.6000/1927-5129.2014.10.25
9. Sutapa P, Pratama KW, Mustapha A. The relationship between the level of physical fitness and the level of depression in elderly age based on gender and marital status. Retos. 2024;(53):36–44. doi.org/10.47197/retos.v53.102488
10. Jaghror I, Jaghror H, Salhi SA, Bikjdaouen L. Study of the impact of depression on the school performance of primary school students in Kénitra, Morocco. Multidiscip Rev. 2025;9(1):2026023. doi.org/10.31893/multirev.2026023
11. Islam F, Maca S, Asyrafunnisa A. Laurel's depression in the novel Love Letters by Ava Dellaira. Humaniora J Linguist Lit Educ. 2023;3(2):157–69. doi.org /10.56326/jlle. v3i2.3391
12. de Campos Tibúrcio P, Marcheti PM, Pascon DM, Junior MAM, de Lima MA, Fernandes CS, et al. Therapeutic guidelines for the self-management of major depressive disorder: scoping review. Interact J Med Res. 2025; 14(1):e63959. doi.org/10.2196/63959
13. Li ZH, Shang YF, Feng SM. Depression: classification and multimodal interventions. Clin Res Commun. 2025;8(2):p.7. doi.org/10.53388/CRC2025007
14. Grocott B, Battaglini AM, Jopling E, Tracy A, Rnic K, Sanchez-Lopez A, LeMoult J. Do markers of daily affect mediate associations between interpretation bias and depressive symptoms? A longitudinal study of early adolescents. J Adolesc. 2023;95(8):1628–40. doi.org/10.1002/jad.12231
15. Yao X, Yu G, Tang J, Zhang J. Extracting depressive symptoms and their associations from an online depression community. Comput Hum Behav. 2021 ;120:106734. doi.org/10.1016/j.chb.2021.106734
16. Hybels, C. F., Landerman, L. R., & Blazer, D. G. Age differences in symptom expression in patients with major depression. *International journal of geriatric psychiatry* ; 2021. *27*(6), 601-611. Doi/10.1002/gps.2759.
17. Sharp C, Mellick W. Child and adolescent depression. In: Hopkins B, Geangu E, Linkenauger S, editors. The Cambridge Encyclopedia of Child Development. Cambridge: Cambridge University Press; 2017. p. 641–6. doi.org/10.1017/9781316216491.102
18. Garber J, Rao U. Depression in children and adolescents. In: Lewis M, Rudolph KD, editors. Handbook of Developmental Psychopathology. 3rd ed. New York: Springer; 2014. p. 489–520. doi.org/10.1007/978-1-4614-9608-3_25
19. Poznanski EO, Krahenbuhl G, Zroll D. Children's Depression Rating Scale–Revised (CDRS-R): development of a short form. J Dev Behav Pediatr. 2015;16(1):38–41. doi.org/10.1037/t55280-000
20. Rice F, Riglin L, Lomax T, Souter E, Potter R, Smith DJ, et al. Adolescent and adult differences in major depression symptom profiles. J Affect Disord. 2019;243:175–81. doi.org/10.1016/j.jad.2018.09.015
21. Psychogiou L, Navarro MC, Orri M, Côté SM, Ahun MN. Childhood and adolescent depression symptoms and young adult mental health and psychosocial outcomes. JAMA NetwOpen.2024;7(8):e2425987. doi.org/10.1001/jamanetworkopen.2024.25987
22. Speier A, et al. Development and validation of a diagnostic interview for depression in children and adolescents. J Abnorm Child Psychol. 2023;45(3):529–41.
23. Smith KE, Pollak SD. Early life stress and development: potential mechanisms for adverse outcomes. J Neurodev Disord. 2020;12(1):34. doi.org/10.1186/s11689-020-09337-y
24. Shengyao Y, Salarzadeh Jenatabadi H, Mengshi Y, Minqin C, Xuefen L, Mustafa Z. Academic resilience, self-efficacy, and motivation: the role of parenting style. Sci Rep. 2024;14(1):5571. doi.org/10.1038/s41598-024-55530-7
25. Tang P, Pavlopoulou G, Kostyrka-Allchorne K, Phillips-Owen J, Sonuga-Barke E. Links between mental health problems and future thinking from the perspective of adolescents with experience of depression and anxiety: a qualitative study. Child Adolesc Psychiatry Ment Health. 2023;17(1):143. doi.org/10.1186/s13034-023-00679-8
26. Masten AS, Cicchetti D. Resilience in development: progress and transformation. In: Cicchetti D, editor. Developmental Psychopathology: Risk, Resilience, and Intervention. 4th ed. Hoboken: Wiley; 2016. p. 271–333. doi.org/10.1002/9781119125556.devpsy406
27. Kendler KS, Aggen SH, Neale MC. Evidence for multiple genetic factors underlying the DSM-5 criteria for major depression. JAMA Psychiatry. 2020;77(9):963–71. doi.org/10.1001/jamapsychiatry.2013.751
28. Luthar SS, D'Avanzo K. Contextual factors in substance use: a study of suburban and inner-city adolescents. Dev Psychopathol. 1999;31(2):445–60. doi.org/10.1017/S0954579499002357

Print ISSN: 0189-9287 Online ISSN: 2992-345X

29. Gilbert W, Eltanoukhi R, Morin AJ, Salmela-Aro K. Achievement goals as mediators of the links between self-esteem and depressive symptoms from mid-adolescence to early adulthood. J Youth Adolesc. 2025;54(1):103–20. doi.org/10.1007/s10964-024-02045-z
30. Zou H, Kong X, Chen Z, Zhang W. Stressful life events among college students: direct and indirect relationships with insomnia, depression, self-esteem, and suicide ideation. Psychol Sch. 2024;61(9):3626–44. doi.org/10.1002/pits.23247
31. Son S, Jang Y, Lee H. Age-dependent relationship between self-esteem and depressive symptoms in Korean adolescents: a meta-analysis of longitudinal studies. J Youth Adolesc. 2025;54:769–84. doi.org/10.1007/s10964-024-02094-4
32. Oubrayrie-Roussel N, Safont-Mottay C, Tap P. A tool for the assessment of self-esteem in adolescents: The E.T.E.S. Eur Rev Appl Psychol. 1994;44(4):309–17.
33. Kovacs M. Children's Depression Inventory (CDI) Manual. North Tonawanda, NY: Multi-Health Systems; 1992.
34. Moor L, Mack C. French version of the Children's Depression Inventory. Neuropsychiatr Enfance Adolesc. 1982;30:623–6.
35. Orth U, Erol RY, Luciano EC. Development of self-esteem from age 4 to 94 years: a meta-analysis of longitudinal studies. Psychol Bull. 2018;144(10):1045–80. doi.org/10.1037/bul0000161
36. Chen L. Developmental changes in self-concept clarity: a longitudinal study. J Res Pers. 2019;82:103856. doi.org/10.1016/j.jrp.2019.103856
37. Block J, Robins RW. A longitudinal study of consistency and change in self-esteem from early childhood to adolescence. Child Dev. 1993;64(3):909–23. https://doi.org/10.2307/1131225
38. Keshky ME, Samak MY. Self-esteem development in childhood and adolescence: factors influencing the variability of results. Int J Psychol. 2017;52(6):456–72. doi.org/10.1002/ijop.12385
39. Liu G, Zhang D, Pan Y, Hu T, He N, Chen W, Wang Z. Self-concept clarity and subjective social status as mediators between psychological suzhi and social anxiety in Chinese adolescents. Pers Individ Dif. 2017;108:40–4. doi.org/10.1016/j.paid.2016.11.067
40. Charmaraman L, Hojman H, Auqui JQ, Bilyalova Z. Understanding adolescent self-esteem and self-image through social media behaviors. Pediatr Clin. 2025;72(2):189–201. doi.org/10.1016/j.pcl.2024.07.034
41. Smith PN, Wolford-Clevenger C, Mandracchia JT, Jahanzeb J. An exploratory analysis of the relationship between self-esteem and depression among adolescent psychiatric inpatients: the role of gender and age. Child Adolesc Ment Health. 2017;22(2):88–95.
42. Carpita B, Nardi B, Pronestì C, Parri F, Giovannoni F, Cremone IM, et al. May female autism spectrum be masked by eating disorders, borderline personality disorder, or complex PTSD symptoms? A case series. Brain Sci. 2023;14(1):37. doi.org/10.3390/brainsci14010037
43. Scourfield J, Rice F, Thapar A, Harold GT, Martin N, McGuffin P. Depressive symptoms in children and adolescents: changing aetiological influences with development. J Child Psychol Psychiatry. 2003;44(7):968–76. doi.org/10.1111/1469-7610.00181
44. Cristofani P, Di Lieto MC, Casalini C, Pecini C, Baroncini M, Pessina O, et al. Specific learning disabilities and emotional-behavioral difficulties: phenotypes and role of the cognitive profile. J Clin Med. 2023;12(5):1882. doi.org/10.3390/jcm12051882
45. Lee J, Jeong HJ, Kim S. Stress, anxiety, and depression among undergraduate students during the COVID-19 pandemic and their use of mental health services. Innov High Educ. 2021;46:519–38. doi.org/10.1007/s10755-021-09552-y
46. Rong J, Cheng P, Li D, Wang X, Zhao D. Global, regional, and national temporal trends in prevalence for depressive disorders in older adults, 1990–2019: an age-period-cohort analysis based on the global burden of disease study 2019. Ageing Res Rev. 2024;100:102443. doi.org/10.1016/j.arr.2024.102443
47. Yan G, Zhang Y, Wang S, Yan Y, Liu M, Tian M, Tian W. Global, regional, and national temporal trend in burden of major depressive disorder from 1990 to 2019: an analysis of the global burden of disease study. Psychiatry Res. 2024;337:115958. doi.org/10.1016/j.psychres.2024.115958
48. Zaccaria V, Ardizzone I, Garbuglia S, Pisani F. The relationship between cognitive profile and psychopathology in childhood: a retrospective study. J Pediatr Neuropsychol. 2025. doi.org/10.1037/jpn0000001
49. Wen J, Yeh TP, Xie H, Yu X, Tang J, Chen Y. Resilience, self-esteem, self-efficacy, social support, depression and ART adherence among people

Print ISSN: 0189-9287 Online ISSN: 2992-345X

living with HIV in Sichuan, China. AIDS Care. 2021;33(11):1414–21.
50. Mereish EH, Parra LA, Watson RJ, Fish JN. Subtle and intersectional minority stress and depressive symptoms among sexual and gender minority adolescents of color: mediating role of self-esteem and sense of mastery. Prev Sci. 2022;23(1):142–53. doi.org/10.1007/s11121-021-01294-9
51. van Tuijl, L. A., Glashouwer, K. A., Bockting, C. L., Penninx, B. W., de Jong, P. J. Self-esteem instability in current, remitted, recovered, and comorbid depression and anxiety. *Cognitive Therapy and Research*. (2018) ; *42*(6), 813-822. Doi/10.1007/s10608-018-9926-5.

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