

Investigating the Relationship Between Educational Stressors and Academic Motivation and Self-Worth in High School Students

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Article Info

Article type:

Original Research

How to cite this article:

Roshanfekr, F., & Pali, S. (2025). Investigating the Relationship Between Educational Stressors and Academic Motivation and Self-Worth in High School Students. *Journal of Adolescent and Youth Psychological Studies*, 6(6), 1-9.

<http://dx.doi.org/10.61838/kman.jayps.6.6.7>



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ABSTRACT

Objective: This study aimed to investigate the predictive role of educational stressors on academic motivation and self-worth among second-cycle high school students in Tonekabon, Iran.

Methods and Materials: The research employed a descriptive-correlational design within a quantitative framework. The statistical population consisted of all high school students in the second cycle of education in Tonekabon during the 2024–2025 academic year ($N = 1100$). Using Krejcie and Morgan's table, a sample of 285 students was selected through simple random sampling. Data were collected using three standardized questionnaires: the Educational Stressors Questionnaire by Masoumi and Dashti (2017), the Academic Motivation Scale adapted from Harter (1981), and the Self-Worth Assessment Questionnaire by Doosti and Hoseininia (2020). SPSS version 27 was used for data analysis. Descriptive statistics, Pearson correlation coefficients, and univariate linear regression were conducted to examine the relationships among variables and the predictive role of educational stress.

Findings: Results indicated a significant negative correlation between educational stressors and both academic motivation ($r = -0.383$, $p < .01$) and self-worth ($r = -0.465$, $p < .01$). A positive correlation was also found between academic motivation and self-worth ($r = 0.481$, $p < .01$). Regression analysis showed that educational stressors significantly predicted a decrease in academic motivation ($\beta = -0.38$, $p < .001$) and self-worth ($\beta = -0.47$, $p < .001$), confirming the detrimental impact of stress on students' psychological functioning.

Conclusion: The findings underscore the critical influence of educational stress on students' motivation and self-perception, emphasizing the need for school-based interventions that reduce stress and enhance psychological well-being. Fostering supportive learning environments and implementing stress management strategies may help improve academic engagement and self-worth in adolescents.

Keywords: Educational stressors; Academic motivation; Self-worth; High school students; Psychological well-being

1. Introduction

In today's complex educational landscape, the mental and emotional well-being of students has become a central concern for educators, policymakers, and researchers. Among the myriad psychological variables that influence academic performance and school adjustment, two critical constructs—academic motivation and self-worth—have emerged as fundamental predictors of student success and well-being. However, these constructs are increasingly threatened by rising levels of educational stress, which affects students' capacity to learn, engage, and thrive academically. Educational stressors, ranging from academic workload and examinations to teacher expectations and peer competition, significantly influence the emotional and motivational domains of students' academic experiences (Karaman & Watson, 2017; Struthers et al., 2000; Tus, 2020).

Academic motivation, defined as the internal drive or external incentives that prompt students to pursue academic goals, plays a central role in determining educational outcomes, persistence, and student engagement (Kritikou & Giovazolias, 2022; Meyer & Stutts, 2024). Motivation is not a static trait but a dynamic construct influenced by various psychological and contextual factors, including perceived stress and coping mechanisms. Several studies have demonstrated that elevated academic stress reduces intrinsic motivation, undermines interest in learning, and increases the likelihood of disengagement or academic procrastination (Almurumudhe et al., 2024; Igomigo et al., 2023; Salehi & Behzadi, 2018). In contrast, students who perceive themselves as competent and experience lower stress tend to be more motivated, resilient, and academically persistent (Chen, 2017; Hashemi Nosratabad et al., 2017).

Self-worth, another cornerstone of psychological development during adolescence, refers to an individual's perception of their own value and competence. In the context of education, self-worth influences not only academic performance but also emotional regulation, self-efficacy, and resilience in the face of challenges (Emesi et al., 2024; Wong et al., 2002). Adolescents with high self-worth are more likely to view academic demands as challenges rather than threats, which supports positive coping strategies and sustained effort (Travis et al., 2020; Turki et al., 2023). On the other hand, persistent academic stress and a lack of perceived support can erode students' sense of self-worth, contributing to maladaptive behaviors such as

procrastination and avoidance (Roshanzadeh et al., 2021; Terp et al., 2019).

From a theoretical perspective, self-determination theory offers a robust framework for understanding the interplay between motivation, self-worth, and stress. According to this theory, optimal motivation arises when students experience autonomy, competence, and relatedness within their academic environment (Kritikou & Giovazolias, 2022). However, educational settings often fail to meet these psychological needs, particularly when stressors such as excessive testing, high-stakes grading, and competitive climates dominate the learning experience. In such contexts, students may lose a sense of control and begin to internalize failure, thereby diminishing both their motivation and self-worth (Mulyadi et al., 2016; Struthers et al., 2000). This developmental vulnerability is especially pronounced in high school students who are navigating academic transitions, identity formation, and heightened societal expectations.

Empirical evidence supports the detrimental impact of academic stress on motivation and self-perception. For instance, Ragusa et al. (Ragusa et al., 2023) found that academic stress was significantly associated with increased procrastination and reduced resilience among secondary students. Similarly, Tus (Tus, 2020) demonstrated that high school students experiencing elevated stress reported significantly lower motivation and performance outcomes. In an intervention study, Meyer and Stutts (Meyer & Stutts, 2024) showed that mindset-based interventions targeting stress perceptions led to increased academic motivation, underscoring the importance of cognitive framing in student engagement. These findings reinforce the notion that educational stress is not only a barrier to performance but also a psychological inhibitor that undermines students' motivational and emotional foundations.

In parallel, several studies emphasize the protective role of self-worth in academic settings. Emesi et al. (Emesi et al., 2024) reported that students with higher self-worth exhibited stronger critical thinking skills and academic achievement. Chen (Chen, 2017) identified self-worth as a key mediating variable in the relationship between parent-adolescent attachment and academic adjustment, suggesting that a strong sense of personal value enhances adaptability in school contexts. The relevance of self-worth is also highlighted in Hashemi and Khorouti's (Hashemi & Khorouti, 2020) comparison study, which found that gifted students exhibited significantly higher levels of self-worth and academic motivation than their non-gifted peers, further

validating the link between self-perception and educational engagement.

Despite this growing body of research, there remains a paucity of studies in Iran that jointly examine educational stress, academic motivation, and self-worth in an integrated model. Most existing studies tend to isolate these constructs or investigate them in university populations, thereby overlooking the critical developmental window of adolescence (Abolfazli et al., 2020; Hashemi Nosratabad et al., 2017). Moreover, cultural context plays a significant role in shaping how students perceive and respond to academic stress. In highly competitive educational systems, such as that of Iran, where success is often equated with high-stakes university entrance exams, the pressure to perform can be particularly intense, exacerbating stress and diminishing self-concept (Azimi et al., 2017; Salehi & Behzadi, 2018).

Additionally, gender and social norms in Iran may influence students' experiences of academic stress and their coping mechanisms. Almurumudhe et al. (Almurumudhe et al., 2024) highlighted the mediating role of self-esteem in the relationship between psychological capital and academic engagement, emphasizing the importance of internal psychological resources in mitigating the impact of stress. Meanwhile, Karaman and Watson (Karaman & Watson, 2017) found that students with a strong internal locus of control reported less academic stress and greater life satisfaction, indicating the role of individual differences in stress response.

To address these gaps, the current study investigates the predictive relationship between educational stressors and two critical psychological outcomes—academic motivation and self-worth—among second-cycle high school students in Tonekabon, Iran.

2. Methods and Materials

2.1. Study Design and Participants

The present study is applied in terms of purpose, quantitative in terms of data collection, descriptive in nature, and correlational in method. It was designed to examine the relationship between educational stressors and two key psychological outcomes: academic motivation and self-worth among high school students. The statistical population consisted of all second-cycle high school students in Tonekabon County during the 2024–2025 academic year, with an estimated total of 1,100 students. Given the defined size of the population, the sample size was determined using the Krejcie and Morgan Table (1970), which suggested that

a minimum of 285 participants would be adequate to ensure generalizability. To account for possible participant attrition or incomplete responses, a total of 290 questionnaires were distributed. Sampling was conducted through a simple random sampling method to ensure equal opportunity for all students in the population to participate. Inclusion criteria included being enrolled in the second cycle of secondary education in Tonekabon and providing informed consent. Students were assured of confidentiality and voluntary participation, and the instruments were administered during school hours in coordination with school officials and trained facilitators.

2.2. Measures

2.2.1. Educational Stressors

To measure the independent variable, educational stressors, this study utilizes the Educational Stressors Questionnaire developed by Masoumi and Dashti in 2017. This standardized instrument was designed to assess the key academic and school-related stress factors among secondary school students. The questionnaire consists of 25 items, each rated on a 5-point Likert scale ranging from “Strongly Disagree” (1) to “Strongly Agree” (5). The tool captures various dimensions of school-related stress, such as pressure from exams, teacher expectations, and peer competition. Masoumi and Dashti (2017) reported satisfactory levels of both face and construct validity for this instrument. Furthermore, the internal consistency of the scale was confirmed using Cronbach's alpha, yielding a reliability coefficient of 0.87. The instrument has since been employed in various Iranian studies, supporting its contextual validity and applicability within Persian-speaking educational environments.

2.2.2. Academic Motivation

To assess the dependent variable of academic motivation, the present study employs the Harter Academic Motivation Scale, originally developed by Harter (1980, 1981) and later modified by Lepper et al. (2005) to fit the Likert response format. This standardized instrument consists of 33 items measuring intrinsic and extrinsic academic motivation. Each item is rated on a 5-point Likert scale (1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Almost Always). Notably, 11 items (items 3, 4, 5, 9, 10, 15, 16, 19, 21, 27, and 31) are reverse-scored. Scores range from 33 to 165, with higher scores indicating stronger academic motivation. Based on

score ranges, motivation is categorized as low (33–66), moderate (66–99), or high (above 99). The tool's reliability has been validated in Iranian contexts; for example, Zohari and Rajabi (2009) reported a Cronbach's alpha of 0.92, confirming the high internal consistency of the scale. Its application in educational research within Iran demonstrates its cultural and psychometric suitability.

2.2.3. Self-Worth

To measure the second dependent variable, self-worth, this study uses the Self-Worth Assessment Questionnaire developed by Doosti and Hoseininia in 2020. This tool comprises 26 items rated on a 5-point Likert scale, ranging from "Never" (1) to "Always" (5), designed to assess overall self-worth among adolescents. The instrument includes four subscales: (1) Interpersonal Relationships, (2) Self-Acceptance, (3) Sense of Competence, and (4) Meaning in Life. The total score ranges from 26 to 130, with higher scores indicating greater perceived self-worth. Scoring is item-specific, with some items reverse-coded to ensure validity. In their validation study, Doosti and Hoseininia (2020) reported an overall Cronbach's alpha of 0.96 for the total score, with subscale reliabilities ranging from 0.86 to 0.94. Test-retest reliability over a 10-day interval yielded coefficients between 0.87 and 0.98, demonstrating excellent stability. The scale has been successfully used in Iranian adolescent populations and has shown strong psychometric properties within the cultural context.

2.3. Data Analysis

Data analysis was performed using SPSS version 27. Descriptive statistics were first calculated to summarize the

demographic and central tendency measures (e.g., means, standard deviations) for the key variables. To examine the research hypotheses and assess the predictive relationship between the independent variable (educational stressors) and the two dependent variables (academic motivation and self-worth), linear regression analysis was employed. Specifically, separate regression models were run for each dependent variable. The assumptions of linear regression—including linearity, normal distribution of residuals, homoscedasticity, and absence of multicollinearity—were tested and verified before conducting the analysis. Statistical significance was evaluated at the 0.05 level. The strength and direction of relationships were interpreted using standardized beta coefficients, and the explained variance (R^2) was used to determine the extent to which educational stressors accounted for changes in academic motivation and self-worth among the participants.

3. Findings and Results

In the present study, 56% of the participants were female and 43.86% were male. The majority of respondents (38.95%) were 17 years old, while the smallest proportion (28.77%) were 18 years old. Regarding educational level, most participants (36.84%) were in the twelfth grade, whereas the lowest proportion (28.77%) were in the eleventh grade. These demographic characteristics provide a representative snapshot of the second-cycle high school student population in Tonekabon County during the 2024–2025 academic year.

Table 1

Descriptive Statistics for Main Study Variables

Variable	Mean	Standard Deviation	Skewness	Kurtosis	Minimum	Maximum
Academic Motivation	3.52	0.591	-0.251	-0.727	1.97	4.79
Educational Stressors	2.41	0.484	0.484	-0.400	1.27	3.96
Self-Worth	3.49	0.607	-0.148	-0.798	2.12	4.73

The descriptive statistics presented in Table 1 provide an overview of the distribution characteristics of the main variables measured in the study. The mean score for academic motivation was 3.52 ($SD = 0.591$), indicating a moderately high level of motivation among participants, with a slight negative skewness and moderate platykurtic

distribution. Educational stressors had a lower mean of 2.41 ($SD = 0.484$), suggesting that students generally perceived a moderate level of academic stress; the positive skewness indicates that more students reported lower-than-average stress. The mean score for self-worth was 3.49 ($SD = 0.607$), with a distribution that was approximately symmetric and

slightly platykurtic. Overall, the range of scores for each variable reflects sufficient variability for further inferential

analysis, and the skewness and kurtosis values remain within acceptable bounds for parametric testing.

Table 2

Correlation Matrix Among Main Study Variables

No.	Variable	1	2	3
1	Educational Stressors	1	-0.383	-0.465
2	Academic Motivation		1	0.481
3	Self-Worth			1

As shown in Table 2, educational stressors are significantly and negatively correlated with both academic motivation ($r = -0.383$, $p < 0.01$) and self-worth ($r = -0.465$, $p < 0.01$). This suggests that higher levels of perceived academic stress are associated with lower levels of motivation and diminished self-worth among high school students. Additionally, academic motivation is positively and significantly correlated with self-worth ($r = 0.481$, $p < 0.01$), indicating that students who are more academically motivated tend to report higher levels of self-worth. These correlations confirm the hypothesized relationships among the study variables and provide a strong basis for subsequent regression analyses.

Before conducting the linear regression analyses, the necessary statistical assumptions were carefully examined

and met. The assumption of normality was assessed through skewness and kurtosis indices, which were within acceptable ranges for all variables, indicating approximately normal distributions. Linearity was verified by inspecting scatterplots, which confirmed a linear relationship between the independent and dependent variables. The assumption of homoscedasticity was evaluated using residual plots, which showed a consistent spread of residuals across predicted values, suggesting equal variance. Furthermore, multicollinearity was assessed by examining the Variance Inflation Factor (VIF), and all values were below the threshold of 5, confirming that multicollinearity was not a concern. These checks affirmed the appropriateness of using linear regression for analyzing the data.

Table 3

Results of Univariate Linear Regression Predicting Academic Motivation Based on Educational Stressors

Predictor	B	Standard Error	β	t	p
Constant	4.31	0.17	–	25.35	<.001
Educational Stressors	-0.62	0.09	-0.38	-6.89	<.001

Table 3 presents the results of the univariate linear regression analysis examining the predictive effect of educational stressors on academic motivation. The model revealed a statistically significant negative effect of educational stressors on academic motivation ($B = -0.62$, $SE = 0.09$, $\beta = -0.38$, $t = -6.89$, $p < .001$). The negative standardized coefficient indicates that higher levels of

perceived educational stress are associated with significantly lower levels of academic motivation. The constant term ($B = 4.31$) reflects the expected value of academic motivation when stress levels are at zero, and the overall strength of the model confirms a meaningful inverse relationship between these two variables.

Table 4

Results of Univariate Linear Regression Predicting Self-Worth Based on Educational Stressors

Predictor	B	Standard Error	β	t	p
Constant	4.54	0.19	–	23.89	<.001
Educational Stressors	-0.71	0.10	-0.47	-7.36	<.001

The results shows the univariate regression results for predicting self-worth based on educational stressors. The findings indicate that educational stressors significantly and negatively predict self-worth ($B = -0.71$, $SE = 0.10$, $\beta = -0.47$, $t = -7.36$, $p < .001$). The standardized beta coefficient suggests a strong inverse association between the level of stress perceived by students and their reported sense of self-worth. The intercept of 4.54 represents the predicted self-worth score when no educational stress is present. Overall, the results demonstrate that increased educational stress significantly undermines students' self-perception and psychological well-being.

4. Discussion and Conclusion

The present study sought to investigate the predictive role of educational stressors on academic motivation and self-worth among second-cycle high school students in Tonekabon, Iran. The findings revealed that educational stressors were significant negative predictors of both academic motivation and self-worth. Specifically, as perceived educational stress increased, students reported significantly lower levels of motivation and diminished self-perceptions of personal worth. These results align with theoretical frameworks such as self-determination theory and the stress-appraisal-coping model, which posit that psychological stress impairs intrinsic motivation and self-related cognitions when perceived as uncontrollable or overwhelming (Kritikou & Giovazolias, 2022; Struthers et al., 2000).

The first major finding of the study demonstrated a significant negative relationship between educational stressors and academic motivation ($\beta = -0.38$, $p < .001$). This suggests that students who perceive greater academic demands, pressure from examinations, and heightened teacher expectations are more likely to experience a decline in motivational drive. These results are consistent with the findings of Tus (Tus, 2020), who reported that academic stress negatively affected students' willingness to engage with school tasks and contributed to academic disengagement. Similarly, Salehi and Behzadi (Salehi & Behzadi, 2018) found that stress management training significantly improved academic motivation, further highlighting the inverse relationship between unmanaged stress and student engagement.

The detrimental effects of educational stress on academic motivation have also been corroborated in cross-cultural studies. For instance, Karaman and Watson (Karaman &

Watson, 2017) found that students experiencing higher stress reported lower motivation and satisfaction, regardless of cultural context. Meyer and Stutts (Meyer & Stutts, 2024) similarly observed that stress-reduction interventions based on cognitive reappraisal enhanced students' academic motivation in university settings, emphasizing the potential of intervention strategies to counteract stress-related motivational deficits.

Moreover, the findings are supported by research on academic procrastination and emotion regulation. Ragusa et al. (Ragusa et al., 2023) demonstrated that students with higher self-regulation and lower perceived academic stress showed greater academic motivation and performance. This reinforces the idea that stressors interfere with cognitive and emotional resources necessary for motivation. Likewise, Igomigo et al. (Igomigo et al., 2023) indicated that academic stress, combined with anxiety, can impair students' cognitive processing and thereby diminish their engagement in academic tasks.

The second major finding of this study revealed a significant negative relationship between educational stressors and self-worth ($\beta = -0.47$, $p < .001$), suggesting that high levels of perceived academic stress contribute to lower evaluations of personal value and competence among students. This is consistent with earlier findings by Chen (Chen, 2017), who showed that self-worth mediates the relationship between parent-adolescent attachment and academic adjustment, indicating the central role of self-worth in educational outcomes. Similarly, Emesi et al. (Emesi et al., 2024) found that self-worth significantly predicted academic performance and critical thinking skills, further validating the psychological importance of this construct.

The relationship between stress and diminished self-worth may be interpreted through the lens of perceived failure and reduced self-efficacy. When students are chronically exposed to performance pressures without adequate coping mechanisms or support systems, they may begin to internalize failure and view themselves as inherently inadequate (Terp et al., 2019; Travis et al., 2020). This finding is also echoed in the study by Turki et al. (Turki et al., 2023), which demonstrated that academic stress was significantly associated with reduced self-esteem and increased academic procrastination among medical students. Roshanzadeh et al. (Roshanzadeh et al., 2021) similarly found that strained relationships and low self-worth predicted greater academic procrastination and avoidance behaviors in Iranian adolescents.

Additionally, this study confirmed the positive correlation between academic motivation and self-worth ($r = 0.481, p < .01$), consistent with the findings of Hāshemi and Khorouti (Hāshemi & Khorouti, 2020), who found that students with higher academic motivation reported significantly greater levels of self-worth and self-regulation. The interplay between these two variables can be interpreted through the reciprocal reinforcement mechanism: motivated students engage more with their academic work, leading to greater success and an enhanced sense of personal competence, which in turn feeds back into their motivational systems.

These findings also corroborate earlier work by Wong et al. (Wong et al., 2002), who demonstrated that perceptions of competence and self-worth significantly predicted motivational orientation and academic achievement. The current results reinforce the notion that fostering a strong sense of personal value in students can serve as a buffer against the demotivating effects of stress. Moreover, the interdependence of academic motivation and self-worth highlights the necessity of addressing both constructs simultaneously in educational planning and psychological interventions.

A critical implication of the present study lies in its contextual focus on Iranian adolescents, a population often subjected to intense academic pressure due to high-stakes examinations and limited access to higher education. Previous research in Iranian settings has shown similar patterns; for instance, Hashemi Nosratabad et al. (Hashemi Nosratabad et al., 2017) emphasized the effectiveness of help-seeking strategy training in reducing academic stress and enhancing motivation. Likewise, Azimi et al. (Azimi et al., 2017) identified psychological capital and motivation as key predictors of academic vitality among Iranian nursing students. These contextual findings support the generalizability of the present study's conclusions within the cultural and educational systems of Iran.

While much of the existing literature has focused on university students, the current study fills a significant gap by highlighting these relationships in a high school population. Adolescence represents a sensitive developmental period in which identity, self-concept, and emotional resilience are still forming, making students particularly vulnerable to the adverse effects of academic stress (Mulyadi et al., 2016). Thus, understanding how educational pressures affect motivation and self-worth in this age group is essential for developing preventative interventions and supportive educational practices.

The findings also emphasize the need to view academic success not merely as a function of cognitive ability or effort, but as a complex interplay of psychological, emotional, and environmental factors. As Meyer and Stutts (Meyer & Stutts, 2024) suggested, mindset interventions that reshape students' interpretations of stress can yield substantial improvements in academic engagement and motivation. Similarly, Struthers et al. (Struthers et al., 2000) advocated for integrated strategies that combine stress reduction, coping training, and motivational support to improve performance outcomes.

Overall, this study contributes to a nuanced understanding of how educational stressors undermine key psychological resources that are essential for academic thriving. By providing empirical evidence from a culturally specific context, the research offers practical insights for school counselors, educators, and mental health professionals working to support adolescent development.

5. Limitations & Suggestions

Despite its contributions, the study is not without limitations. First, the cross-sectional design prevents causal inferences from being made about the relationships between educational stressors, academic motivation, and self-worth. Longitudinal studies would be needed to examine the directionality and persistence of these relationships over time. Second, the reliance on self-report instruments introduces the possibility of social desirability bias and subjective misreporting, especially regarding sensitive topics like personal worth. Additionally, the study was conducted within a single geographic location (Tonekabon), which may limit the generalizability of the findings to other regions or cultural contexts.

Future research should explore longitudinal models that examine how academic stress, motivation, and self-worth evolve across different stages of adolescence and educational transitions. Studies could also examine the mediating roles of emotional regulation, family support, and teacher-student relationships to better understand the mechanisms underlying these associations. Moreover, qualitative research could enrich the findings by capturing students' lived experiences and personal narratives regarding academic stress and self-perception. Including diverse student populations across different socioeconomic and cultural backgrounds would also enhance the external validity of future studies.

Educational institutions should implement structured programs that address stress management and resilience-building as part of the standard curriculum. School counselors can play a vital role by conducting workshops focused on cognitive reframing, emotional regulation, and self-compassion. Teachers should receive training in autonomy-supportive teaching methods that promote motivation and affirm students' sense of competence. Finally, educational policies should prioritize psychological well-being alongside academic performance, recognizing that motivation and self-worth are foundational to sustainable learning and long-term student success.

Acknowledgments

We would like to express our appreciation and gratitude to all those who cooperated in carrying out this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

Authors' Contributions

All authors equally contributed to this article.

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