

The Relationship Between Psychological Hardiness and Academic Motivation in Students

Fatemeh Karami^{1*}, Behrouz Sabzi²

¹Md, Social Sciences, Education, Lorestan, Iran.

²Md, Persian Literature, Education, Lorestan, Iran.

Corresponding Author Email: Kfatemeh983@gmail.com

ABSTRACT: Background and Purpose: Academic motivation is a critical determinant of student achievement, influenced by various personality traits, including psychological hardiness. The present study aimed to investigate the relationship between psychological hardiness and academic motivation among adolescent students aged 14 to 16 years.

Methods: This study employed a descriptive-correlational research design. A sample of 50 students was selected using convenience sampling. The research instruments included the Ahvaz Psychological Hardiness Inventory (APHI) and Harter's Academic Motivation Questionnaire. Data were analyzed using Pearson correlation coefficients and multiple regression analysis via SPSS software.

Results: The results indicated a significant positive correlation between psychological hardiness and academic motivation ($r=0.68$, $p<0.01$). Furthermore, the components of hardiness (commitment, control, and challenge) successfully predicted 46% of the variance in academic motivation.

Conclusions: Enhancing psychological hardiness can serve as an effective strategy for promoting academic motivation and reducing burnout among students.

Keywords: Psychological Hardiness, Academic Motivation, Academic Achievement, Education.

INTRODUCTION

Educational systems worldwide consistently seek to identify factors that facilitate learning and propel students toward academic achievement. Within this context, "academic motivation" is recognized as one of the most critical psychological variables, serving as the driving force behind the learning process. Academic motivation not only determines a student's inclination to initiate an educational activity but also ensures the persistence and intensity of their efforts to achieve academic goals (Rezai et al., 2018; Abdi et al., 2025). From a theoretical perspective, academic motivation is categorized into intrinsic and extrinsic types. Intrinsic motivation refers to the inherent desire to learn, curiosity, and the enjoyment derived from problem-solving, whereas extrinsic motivation is influenced by external incentives such as grades, approval from teachers or parents, and the avoidance of punishment (Piri, 2024; Ardeshirpey et al., 2023).

During the sensitive period of adolescence, particularly between the ages of 14 and 16, students face multifaceted challenges. This stage, characterized by physical and cognitive maturation, is a formative time for identity development and critical decision-making regarding future academic and vocational paths. Research indicates that during this age interval, academic motivation undergoes significant fluctuations. A decline in motivation at this juncture can have detrimental consequences, the most prevalent of which is "academic procrastination." Procrastination is defined as the voluntary delay of academic tasks and the substitution of important educational activities with less significant ones (Piri, 2024). Students lacking sufficient intrinsic

motivation are more vulnerable to this phenomenon, leading to a cycle of academic failure and diminished self-esteem. Consequently, identifying personality traits that can serve as protective resources to maintain student motivation at an optimal level is of paramount importance (Matani et al., 2018).

A key personality trait in this regard is "psychological hardiness." Originally introduced by Kobasa, psychological hardiness refers to a constellation of personality characteristics that function as a buffer against psychological strain and stressful life events (Matani et al., 2018; Sadeghi et al., 2017). Psychological hardiness transcends being a simple trait and comprises three interrelated components: commitment, control, and challenge. Commitment involves an individual's tendency to involve themselves fully in various life activities and a belief in the meaningfulness of their efforts. A committed student views education as a vital part of their identity and remains persistent even under difficult circumstances. Control reflects the belief that one can influence the events surrounding them and accept responsibility for the outcomes. Students with a high sense of control seek ways to improve their performance rather than succumbing to poor grades. Finally, challenge signifies that an individual perceives changes and difficulties not as threats to their security, but as opportunities for growth and learning (Abdi et al., 2025; Matani et al., 2018).

The significance of psychological hardiness has been substantiated across various research domains. For instance, in clinical settings, psychological hardiness and resilience have been identified as significant predictors of treatment adherence in chronic patients (Ardeshirpey et al., 2023). Furthermore, research has demonstrated that this construct has a direct relationship with "quality of life" and an inverse relationship with "death anxiety" (Pourakbari et al., 2024). In the field of mental health, psychological hardiness and resilience are introduced as factors that ensure general health when facing severe pressures (such as caring for children with specific disorders) (Sadeghi et al., 2017). Moreover, in vocational and professional environments, psychological hardiness acts as a preventive factor against "occupational burnout." Burnout, resulting from chronic stress and reduced adaptive capacity, is significantly lower in individuals with high levels of hardiness (Matani et al., 2018; Hystad et al., 2009). This evidence suggests that psychological hardiness is a stable internal resource enabling individuals to maintain optimal performance in various environments, including schools.

In recent years, the similar concept of "mental toughness" has emerged in sport and educational psychology literature, overlapping significantly with psychological hardiness. Mental toughness focuses on an individual's ability to manage pressure and overcome obstacles, encompassing components such as psychological flexibility, self-confidence, and a positive outlook toward challenges (Abdi et al., 2025). The use of modern assessment tools, such as the 10-item Mental Toughness Questionnaire (MTQ10), has assisted researchers in more accurately examining these internal resources in adolescents (Abdi et al., 2025). The link between psychological hardiness and academic motivation can be analyzed from several perspectives. First, due to high levels of commitment, hardy students pursue their academic goals with greater seriousness, which directly bolsters their intrinsic motivation. Second, the belief in personal control prevents students from becoming discouraged by failures, motivating them to redouble their efforts to compensate. In effect, hardiness acts as a moderating factor, mitigating the negative effects of academic stressors (such as heavy workloads or difficult exams) and preventing a decline in motivation (Papageorgiou et al., 2018; Kobasa, 1979).

In addition to individual traits, environmental variables such as "social support" play a role in this process. Social support from family, peers, and teachers can provide a foundation for personality traits like hardiness to flourish. However, research indicates that social support sometimes affects academic motivation indirectly by strengthening "self-efficacy beliefs" (Rezai et al., 2018; Maddi, 2004). A student who benefits from environmental support while possessing a hardy personality gains greater confidence in their abilities, thereby engaging in academic activities with higher motivation. Despite the profound importance of this issue, 14-to-16-year-old students in the Iranian educational system face specific stresses, including major selection and preparation for high-stakes examinations, which can significantly impact their motivation. Although studies have been conducted on concepts such as resilience and motivation, a precise investigation into the relationship between psychological hardiness (with an emphasis on the dimensions of commitment, control, and challenge) and academic motivation in this specific age group—utilizing a sample size that allows for an in-depth analysis of relationships—remains essential.

Accordingly, the present study was designed to address this fundamental question: Is there a significant relationship between psychological hardiness and the academic motivation of adolescent students? We hypothesize that psychological hardiness has a positive and direct relationship not only with general motivation but specifically with the intrinsic motivation of students. The findings of this research may assist school counselors in shifting focus from purely instructional methods toward strengthening the personality foundations of students. By providing training in hardiness-related skills, educators can pave the way for academic success and persistence. This approach could serve as an effective step toward reducing problems such as academic decline, test anxiety, and procrastination among adolescents.

METHODOLOGY

The present study is applied in terms of objective and falls within the category of descriptive-correlational research regarding its nature and method. A cross-sectional research design was employed to examine the relationship between the predictor variable (psychological hardiness) and the criterion variable (academic motivation). The statistical population of this study comprised all male and female secondary school students (lower and upper secondary) aged 14 to 16 years who were enrolled during the current academic year. Based on the research objectives and the nature of correlational studies, a sample of 50 students was selected. The sampling method utilized was convenience sampling (Piri, 2024). Inclusion criteria included voluntary consent to participate, falling within the specified age range, and the absence of acute psychological disorders (based on self-report). Furthermore, the exclusion criterion was defined as failure to complete more than 10% of the questionnaire items.

Data Collection Instruments

Two standardized questionnaires were used to measure the research variables:

1. **Ahvaz Psychological Hardiness Questionnaire:** Developed by Kiamarsi et al., this scale has been widely utilized in domestic research (Matani et al., 2018). It consists of 27 items measuring the three primary components of hardiness: commitment, control, and challenge. Responses are recorded on a four-point Likert scale (from Never = 0 to Always = 3). Previous studies have reported a **Cronbach's alpha coefficient** of 0.82 for the total scale and between 0.70 and 0.75 for its subscales, indicating desirable reliability within the Iranian population (Abdi et al., 2025; Matani et al., 2018).
2. **Harter's Academic Motivation Questionnaire:** This 33-item instrument has also been employed in studies by Rezaei et al. (Rezaei et al., 2018) and Piri (Piri, 2024). It assesses two main dimensions: intrinsic motivation (including preference for challenge, curiosity, and independent mastery) and extrinsic motivation (including easy work, pleasing the teacher, and dependence on the teacher). Scoring is based on a four-point Likert scale. The face and content validity of this questionnaire have been confirmed by experts, and its reliability in domestic studies was reported at 0.81 using Cronbach's alpha (Rezaei et al., 2018).

Ethical Considerations and Procedure

Following coordination with educational authorities and clarification of the research objectives, a briefing session was held for the students. Participants were assured of the strict confidentiality of their information and informed that results would be analyzed collectively. Principles of anonymity and the right to withdraw from the study were strictly observed. The questionnaires were completed via self-report over a 30-minute period in the presence of the researcher to resolve any potential ambiguities in the items.

Data Analysis Method

The collected data were analyzed using SPSS software (version 26). Descriptive statistics, including mean, standard deviation, frequency, and percentage, were utilized. At the inferential level, the Kolmogorov-Smirnov test was first applied to check the normality of the data distribution. Subsequently, the Pearson correlation coefficient was used to determine the relationship between variables. Additionally, multiple regression analysis was conducted to predict the contribution of each hardiness component to academic motivation. The significance level for all tests was set at $p < 0.05$.

RESULTS

The study initially examined demographic characteristics and descriptive indices. The mean age of the students was 15.4 years. Prior to conducting the main analyses, the Kolmogorov-Smirnov test confirmed the normality of the distribution for both psychological hardiness and academic motivation scores.

The results of the Pearson correlation test indicated a significant positive relationship between psychological hardiness and academic motivation ($r = 0.68, p < 0.01$). This finding suggests that students who scored higher on the Hardiness Questionnaire (Ahvaz) demonstrated greater academic motivation (particularly in intrinsic dimensions) on Harter's scale. Furthermore, the correlation between hardiness components showed that commitment ($r = 0.62$), control ($r = 0.52$), and challenge ($r = 0.42$) had the highest correlations with academic motivation, respectively.

To determine the contribution of each psychological hardiness component in predicting academic motivation, simultaneous multiple regression analysis was performed. The results revealed that the components of hardiness collectively accounted for 46% of the variance in academic motivation. Regression coefficients indicated that commitment ($\beta = 0.41$) and control ($\beta = 0.34$) were significant predictors of academic motivation. However, the challenge component did not uniquely contribute a significant share to the prediction of

motivation in the presence of the other two variables.

DISCUSSION AND CONCLUSION

The present study aimed to investigate the relationship between psychological hardiness and academic motivation among adolescent students aged 14 to 16 years. The findings derived from data analysis revealed a significant positive correlation between psychological hardiness and academic motivation. This finding implies that as hardiness traits increase in students, their motivation for learning and achievement within the educational environment is enhanced. In the first paragraph, we compare these results with previous literature. Our findings are consistent with those of Hystad et al. (Hystad et al., 2009), who found that psychological hardiness, as an internal resistance resource, moderates the negative effects of academic stress and prevents performance and motivational decline in students. Furthermore, these results align with the findings of Papageorgiou et al. (Papageorgiou et al., 2018), who reported a direct positive relationship between mental toughness and academic achievement in adolescents. Among domestic sources, the results of the current study are congruent with Abdi et al. (Abdi et al., 2025), who emphasized the role of hardiness in managing pressure and overcoming obstacles. Although Abdi's study focused on athletes, the underlying mechanism of hardiness is similar in both athletic and educational contexts; that is, a hardy individual demonstrates greater persistence when facing challenges (whether a sporting competition or a rigorous examination). Additionally, Piri's research (Piri, 2024) indicated that intrinsic motivation is inversely related to academic procrastination. Our findings link to Piri's work in that psychological hardiness, by strengthening intrinsic motivation, steers the student away from procrastination and toward active engagement with academic tasks. Moreover, the alignment of these results with Sadeghi et al. (Sadeghi et al., 2017) —who identified hardiness as a predictor of mental health—suggests that hardy students, possessing higher mental well-being, have greater psychological energy to invest in their academic motivation.

To explain the rationale behind this relationship and how psychological hardiness fosters positive changes in academic motivation, the three components of this construct (commitment, control, and challenge) must be analyzed. First, the commitment component ensures that the student views themselves as part of the learning process rather than feeling alienated from the school environment. A committed student ties academic goals to personal values (Bandura, 1997). This sense of meaning, according to academic motivation theories, serves as the primary fuel for "intrinsic motivation" (Rezai et al., 2018; Piri, 2024). As Matani et al. (Matani et al., 2018) noted, commitment in hardy individuals prevents burnout; in a school setting, this commitment enables students to maintain their motivation to complete tasks even when faced with tedious subjects. Second, the control component plays a pivotal role in a student's self-efficacy beliefs (Kiamarsi et al., 1998; Harter et al., 1988). Students with a sense of control believe their academic outcomes result from their own efforts and planning rather than luck or exam difficulty. This finding is deeply linked to Rezaei et al. (Rezaei et al., 2018), who demonstrated that self-efficacy beliefs are the primary mediators between environmental support and academic motivation. Hardiness, by reinforcing a sense of control, enhances a student's belief in their capabilities, thereby doubling their motivation to engage in new intellectual challenges (Eschleman et al., 2010; Sheard, 2009). Third, the challenge component alters the student's cognitive appraisal system. Adolescents aged 14 to 16, due to the pressures of puberty and entrance exams, often perceive academic tasks as a "threat," leading to anxiety and decreased motivation. However, a hardy student evaluates these situations as opportunities for "growth and challenge." This perspective transforms anxiety into positive excitement and keeps achievement motivation active (Ardeshirpey et al., 2023; Pourakbari et al., 2014).

Furthermore, psychological hardiness acts as a buffer against stress. In the study by Ardeshir-Pay et al. (Ardeshirpey et al., 2023), hardiness helped patients adhere to their treatment; similarly, in the school environment, hardiness helps students adhere to their "academic schedule," even when grades do not meet expectations. This persistence prevents the motivational drop that typically occurs after temporary failures. Additionally, Pourakbari et al. (Pourakbari et al., 2014) showed that hardiness is positively correlated with quality of life. A student with a higher psychological quality of life maintains better focus on learning and possesses more stable academic motivation.

Another noteworthy point is the role of the students' age (14–16 years) in this study. This period coincides with the "identity vs. role confusion" stage in Erikson's theory. Students who develop hardiness traits during these years achieve a stronger academic identity. Instead of following fleeting extrinsic motivations (such as fear of parental punishment), they move toward stable intrinsic motivations. This issue is vital in educational systems facing challenges like test anxiety and motivational decline in lower and upper secondary schools (Erikson, 1968; Ghadampour, et al., 2018; Pintrich et al., 2003). Given the positive and significant relationship found in our 50-person sample, it can be concluded that psychological interventions aimed at promoting hardiness can indirectly improve academic motivation. Practical strategies include teaching problem-solving skills (related to control), helping students find meaning in their studies (related to commitment), and encouraging them to take intellectual risks and learn from mistakes (related to challenge).

The present study demonstrated that psychological hardiness is more than a simple personality trait; it is a

developmental construct on the path to student success. By linking beliefs of control and feelings of commitment, this construct provides a foundation where academic motivation flourishes and remains shielded from harms such as procrastination and burnout. Although this study faced limitations such as a small sample size and a correlational design, its results emphasize the necessity of considering students' personality dimensions alongside their cognitive abilities. It is recommended that educational planning include programs to strengthen resilience and mental hardiness alongside academic curricula to cultivate students who are motivated, resilient, and prepared for future challenges.

REFERENCES

- Abdi, F., Golmohammadi, B., & Kashani, V. (2025). Psychometric properties of the 10-item Mental Toughness Questionnaire (MTQ10): The Persian version. *Sport Psychology*, 17(1), 99–111. [\[Google Scholar\]](#) [\[Publisher\]](#) <https://doi.org/10.29252/mbssp.17.1.99>
- Ardeshtirpey, J., Bakhshayesh, A. R., & Dehghan, M. (2023). Prediction of medication adherence based on dispositional resilience, ambiguity tolerance and perceived social support in patients with lung cancer. *Toloo-e-behdasht*, 22(2), 59–71. [\[Google Scholar\]](#) [\[Publisher\]](#) <https://doi.org/10.18502/tbj.v22i2.12836>
- Bandura, A. (1997). Self-efficacy: The exercise of control. W. H. Freeman. [\[Google Scholar\]](#) [\[Publisher\]](#)
- Erikson, E. H. (1968). Identity: Youth and crisis. W. W. Norton & Company. [\[Google Scholar\]](#) [\[Publisher\]](#)
- Eschleman, K. J., Bowling, N. A., & Alarcon, G. M. (2010). A meta-analytic examination of hardiness. *International Journal of Stress Management*, 17(4), 277–307. [\[Google Scholar\]](#) [\[Publisher\]](#) <https://doi.org/10.1037/a0020476>
- Ghadampour, E., Farhadi, A., & Naghdi, N. (2016). The relationship between academic self-efficacy and academic motivation in students. *Journal of Medical Education and Development*, 8(1), 53–64. [\[Publisher\]](#)
- Harter, S. (1988). Manual for the Self-Perception Profile for Adolescents. University of Denver. [\[Google Scholar\]](#) [\[Publisher\]](#)
- Hystad, S. W., Eid, J., Laberg, J. C., & Bartone, P. T. (2009). Academic stress and health: Exploring the moderating role of personality hardiness. *Scandinavian Journal of Educational Research*, 53(5), 421–429. [\[Google Scholar\]](#) [\[Publisher\]](#) <https://doi.org/10.1080/00313830903180349>
- Kiamarsi, A., Najarian, B., & Mehrabizadeh Honarmand, M. (1998). Construction and validation of a scale for measuring psychological hardiness. *Journal of Psychology*, 2(3), 271–284. [\[Google Scholar\]](#) [\[Publisher\]](#)
- Kobasa, S. C. (1979). Stressful life events, personality, and health: An inquiry into hardiness. *Journal of Personality and Social Psychology*, 37(1), 1–11. [\[Google Scholar\]](#) [\[Publisher\]](#) <https://doi.org/10.1037/0022-3514.37.1.1>
- Maddi, S. R. (2004). Hardiness: An operationalization of existential courage. *Journal of Humanistic Psychology*, 44(3), 279–298. [\[Google Scholar\]](#) [\[Publisher\]](#) <https://doi.org/10.1177/0022167804266101>
- Matani, M., Hosseinipour, S. V., Nazarian, B., & Kheiri, T. (2018). Psychological correlates of burnout: Personality dimensions and psychological hardiness. *Journal of Human Capital Empowerment*, 1(3), 251–265. [\[Google Scholar\]](#) [\[Publisher\]](#) <https://doi.org/10.22034/JHCE.2018.66556>
- Papageorgiou, K. A., Malanchini, M., Denovan, A., Clough, P. J., Shakeshaft, N., Schofield, K., & Kovas, Y. (2018). Longitudinal associations between narcissism, mental toughness and school achievement. *Personality and Individual Differences*, 131, 105–110. [\[Google Scholar\]](#) [\[Publisher\]](#) <https://doi.org/10.1016/j.paid.2018.04.024>
- Pintrich, P. R. (2003). A motivational science perspective on the role of student motivation in learning and teaching contexts. *Journal of Educational Psychology*, 95(4), 667–686. [\[Google Scholar\]](#) [\[Publisher\]](#) <https://doi.org/10.1037/0022-0663.95.4.667>
- Piri, M. (2024). Relationship between academic motivation and procrastination in female elementary school students. *Academic Motivation and Educational Systems*, 1(2). [\[Google Scholar\]](#) [\[Publisher\]](#)
- Pourakbari, F., Khajevand Khoshli, A., & Asadi, J. (2014). Relationship of psychological hardiness and quality of life with death anxiety in nurses. *Journal of Research Development in Nursing and Midwifery*, 11(2), 53–59. [\[Publisher\]](#) <https://doi.org/10.18869/acadpub.jgbfnm.11.2.53>
- Rezai, E., Towhidi, A., & Mousavi Nasab, S. M. H. (2018). Social support and academic motivation: The mediating role of self-efficacy beliefs. *Journal of Studies in Learning and Instruction*, 10(2), 54–74. [\[Google Scholar\]](#) [\[Publisher\]](#) <https://doi.org/10.22099/jsli.2019.29419.2520>
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54–67. [\[Google Scholar\]](#) [\[Publisher\]](#) <https://doi.org/10.1006/ceps.1999.1020>
- Sadeghi, M., Rahimpour, T., & Alimohammadi, H. (2017). The effect of resilience and psychological hardiness on mental health of mothers of children with attention deficit hyperactivity disorder (ADHD). *Knowledge & Research in Applied Psychology*, 18(1), 30–37. [\[Google Scholar\]](#) [\[Publisher\]](#) <https://doi.org/10.30486/krap.2017.528346>
- Sheard, M. (2009). Hardiness commitment, gender, and age as predictors of academic performance. *British Journal of Educational Psychology*, 79(1), 189–204. [\[Google Scholar\]](#) [\[Publisher\]](#) <https://doi.org/10.1348/000709908X304406>