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# The Relationship of Self-Efficacy and Resilience with Academic Engagement: The Mediating Role of Psychological Hardiness

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## ABSTRACT

**Objective**: This study examines the interplay between self-efficacy, resilience, academic engagement, and the mediating role of psychological hardiness among a sample of 182 students at the Islamic Azad University of Bandar Abbas. Furthermore, the study explores the potential mediating role of psychological hardiness in this relationship.

**Methods**: The research investigates the extent to which students' beliefs in their capabilities (self-efficacy) and their ability to adapt and rebound from challenges (resilience) relate to their active participation and involvement in academic activities (academic engagement). Data were collected through self-report questionnaires measuring self-efficacy, resilience, psychological hardiness, and academic engagement. Statistical analyses, including correlation and mediation analyses, were conducted to uncover the complex interactions among these variables.

**Results**: The findings shed light on the pathways through which self-beliefs and psychological strengths influence students' academic engagement.

**Conclusions**: This research contributes to our understanding of the psychological factors that impact students' academic experiences and outcomes.

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## Introduction

In educational settings, it appears that fostering student engagement is an essential prerequisite for reducing dropout rates and promoting significant academic achievements (Trowler, 2010). As a result, research on student engagement has seen substantial growth in the past decade, as demonstrated by recent comprehensive analyses (Boulianne & Theocharis, 2020). Researchers have reached a broad consensus regarding the three-component engagement model as outlined by (Fredricks & McColskey, 2012). These scholars suggest that engagement is a higher-order construct comprising three distinct components:

1 .Behavioral engagement: Involvement in social, academic, or other activities essential for achieving academic success and preventing dropout.

2 .Emotional engagement: The emotional responses elicited by academic tasks, interactions with peers and teachers, or the school environment.

3 .Cognitive engagement: The extent of attention and deliberate self-regulation invested in mastering academic knowledge and competencies.

Nevertheless, scholars like Reeve and Tseng (2011) have argued for the incorporation of a fourth component, known as agentic engagement, which pertains to students' active participation in the learning process. They support their proposition with empirical evidence demonstrating that agentic engagement correlates with students' intrinsic motivation, is related to each of the other three aspects of engagement, and independently predicts academic achievement. Student engagement encompasses the time and effort students invest in participating in learning activities and assignments related to their courses. An examination of the existing literature underscores the multifaceted nature of this concept, encompassing agentic, behavioral, emotional, and cognitive dimensions that influence effective learning. Engaged students in educational settings not only demonstrate diligence, find enjoyment, and employ advanced learning strategies when tackling tasks but also actively engage with instructors by sharing insights and viewpoints to enhance their learning journey. Extensive research has shed light on the pivotal role of student engagement, whether in physical classrooms or online environments. It stands as a valuable indicator of the quality of learning and serves as a robust predictor of academic success.


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One of the factors that affect the academic engagement is self-efficacy. Self-efficacy (SE) embodies an individual's conviction in their capacity to conquer any challenge they encounter (Bandura, 1977). SE can assume a general or task-specific nature, enabling individuals to possess a spectrum of SE beliefs at any given moment. An individual's SE beliefs exert a profound influence on their emotions, thoughts, and self-motivation. This influence can lead to pronounced disparities in behavior among individuals with varying levels of SE. Those harboring robust or high SE are deeply confident in their capabilities, viewing challenges as opportunities to master rather than threats to evade (Bandura, 1977). They wholeheartedly immerse themselves in tasks, demonstrating unwavering commitment. They readily rebound from setbacks, treating them as valuable learning experiences. These qualities can collectively enhance personal well-being by diminishing stress, thereby reducing the risk of experiencing depression. Conversely, individuals with feeble or low SE are plagued by substantial self-doubt. This self-doubt often results in a complete avoidance of challenges perceived as threatening situations. Such individuals often dwell on past shortcomings, making it difficult to recover from setbacks. Consequently, they are more susceptible to depression and stress (Bandura, 1977).

It is crucial to note that levels of SE are not set in stone; they possess the capacity for enhancement through exposure to influential information sources. One such source is vicarious experience information (VEI), which Gist and Mitchell (1992) argue has the most immediate and direct impact on an individual's SE. When we encounter information implying someone else's success in a particular task, our belief in our own ability to succeed in the same task is elevated. This belief is further reinforced when we observe someone, we consider similar to ourselves. Surprisingly, prior studies have overlooked how an individual's level of general SE influences their interpretation of VEI and the benefits this information confers on their task-specific SE.

Bandura (1994) expounds on how an individual's existing general SE can shape their behavior, potentially influencing how they interpret and assimilate information, including VEI. Those with low general SE, more inclined to be disheartened by information and fixate on past negative experiences, may not interpret or pay as much attention to VEI as their higher general SE counterparts (Bandura, 1994). This puts them at a disadvantage, as it may result in individuals with low general SE not deriving the same benefits from VEI in relation to their SE.


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The ability to achieve, remain motivated, and perform well in school despite marginalization and being at-risk for school failure is described as academic resilience. In an educational context, resilience characterizes a learner's capacity to pursue their goals even in the face of adverse or distressing situations (Martin & Marsh, 2006). Truebridge (2017) defines resilience as a dynamic process, describing it as the dynamic and negotiated process within individuals (internal) and between individuals and their environments (external) for the resources and supports to adapt and define themselves as healthy amid adversity, threat, trauma, and/or everyday stress.

Howe et al. (2012) offer two perspectives on resilience. They present the psychological definition of resilience as "a dynamic process encompassing positive adaptation within the context of significant adversity".

Hayat et al. (2021) contend that resilient learners can effectively manage stress and maintain high mental fortitude in the face of challenges. Resilience comprises a combination of psychological and social behaviors, acting as dynamic factors (Herrman et al., 2011). It equips individuals with the ability to function positively and adapt to life's demands in adverse or challenging circumstances (Sahraeean & Samavi, 2022). In the realm of education, resilience is a pivotal motivational and affective factor. Recent research has focused on distinct psychological concepts aimed at reducing demotivation in foreign language learning and altering L2 learning behavior. Consequently, academic resilience has gained renewed attention in foreign language learning (Rudd et al., 2021). Therefore, schools and universities bear the responsibility of developing students' capacities and fostering their resilience to achieve success.

Psychological hardiness is a personality trait that exerts a positive influence on an individual's performance, well-being, and emotional state when confronted with stressful situations. The introduction of the concept of hardiness is credited to Kobasa (1979). It represents a set of behaviors that transform potential threats within stressful circumstances into opportunities for personal growth and development (Eroz & Emine, 2018). The concept of hardiness is firmly grounded in theory and has been empirically established as a significant resource for coping with stress across a diverse range of populations (Bartone et al., 2016). Kobasa (1979) defines hardiness as a combination of cognitive, emotional attitudes, and behaviors that are essential for not only surviving but also enriching one's life during the process of development. In line with this


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definition, individuals with high psychological hardiness should perceive life or work as highly meaningful, possess a belief in their ability to influence events and outcomes, and exhibit readiness for the changes and challenges that life presents. Kobasa (1979) delineates three key components that constitute psychological hardiness: commitment, control, and challenge. While these components are interrelated and collectively contribute to the construct of hardiness, each one places a distinct focus on particular aspects of an individual's psychological disposition.

In university students, there is a need to investigate and understand the intricate dynamics between self-efficacy, resilience, academic engagement, and psychological hardiness. Specifically, this study aims to explore the potential mediating role of psychological hardiness in the relationship between self-efficacy and resilience and their combined impact on academic engagement. By doing so, we seek to gain insights into how these psychological constructs interact to influence the level of engagement students exhibit in their academic pursuits.

## Materials and Methods

The present study is a descriptive correlation research that involved a sample of university students recruited from Islamic Azad University, Bandar Abbas Branch. Participation in the research was voluntary, and participants provided informed consent. The sample size was determined equal 182 students using power analysis to ensure adequate statistical power.

### Measures

**Self-Efficacy Scale**: The General Academic Self-Efficacy scale (GASE), developed by Nielsen et al. (2018), served as the tool for assessing academic self-efficacy. This self-report questionnaire consists of five items, and participants were asked to rate their academic self-efficacy on a five-point Likert scale, with response options ranging from 1 (strongly disagree) to 5 (strongly agree). As an illustration, one of the items reads as follows: "I believe that with sufficient effort throughout the semester, I can successfully pass the exam." Akanni et al. (2023) reported a satisfactory level of internal consistency for this scale, with a calculated Cronbach's alpha of 0.81.

**Academic Resilience Scale**: Cassidy (2016) developed a 30-item scale aimed at assessing students' academic resilience. The study involved 532 participants with an average age of 22.4 years and a standard deviation of 6.2 years. This scale comprises three distinct components: perseverance (consisting of 14 items), reflective and adaptive help-seeking (comprising 9 items), and negative affect and emotional response (including 7 items). To utilize this scale, students were


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first presented with a brief scenario illustrating a challenging academic situation that demanded significant effort. Participants were then asked to rate the items using a 5-point Likert scale, ranging from "likely" (1) to "unlikely" (5). It's important to note that positive items were reverse-scored, meaning that a higher score on the scale indicates a higher degree of academic resilience. The total scale score was calculated by summing the scores of the individual items, resulting in a possible range of scores from 30 to 150. The scale's criterion validity was established by calculating its correlation with the General Academic Self-Efficacy Scale (Cassidy & Eachus, 2002), yielding a coefficient of 0.49. Additionally, the internal consistency of the scale was assessed, resulting in a Cronbach's alpha coefficient of 0.90 (Cassidy, 2016).

**The Personal Views Scale III-Revised (PVS III-R):** This scale originally developed by Maddi et al. (2002). This scale is composed of 18 items designed to assess the psychological hardiness of individuals, and it is subdivided into three 6-item subscales, which gauge commitment, control, and challenge. Respondents rate the PVS III-R items on a 4-point Likert-type scale, ranging from 0 (indicating "not at all true") to 3 (indicating "very true"). The total scores for psychological hardiness can vary between 19 and 49, with most individuals scoring within the range of 38 to 41 (Maddi et al., 2002). Higher scores on the PVS III-R are indicative of greater psychological hardiness. Maddi and Khoshaba (2001) reported internal consistency levels of 0.70 to 0.75 for the commitment subscale, 0.61 to 0.84 for the control subscale, 0.60 to 0.71 for the challenge subscale, and 0.80 to 0.88 for the entire scale.

**Assessment Engagement Scale (AES)**: The Assessment Engagement Scale (AES) consists of 12 items. This scale was developed based on the Equity, Agency, and Transparency Assessment (EAT) Framework created by Evans (2013). The primary objective of this instrument is to assess students' viewpoints regarding their involvement in the assessment and feedback processes, specifically in relation to distinct self-regulatory and agentic engagement behaviors. Notably, within higher education, there is currently a lack of instruments that integrate these constructs to examine how students and educators interact with the assessment procedures within the higher education context.

**Ethical Considerations**: Informed consent was obtained from all participants, explaining the purpose of the study, their rights, and the confidentiality of their responses.


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**Data Analysis**: The collected data were analyzed using various statistical techniques, including correlation analyses to explore the relationships between self-efficacy, resilience, psychological hardiness, and academic engagement. Mediation analyses, employing established mediation models, to assess the potential mediating role of psychological hardiness in the relationship between self-efficacy and resilience with academic engagement in AMOS-23.

## Results

Table (1) presents the Descriptive Statistics, Mean, Standard Deviation, and Normality Assessment of the investigated variables.

**Table 1.** Descriptive Statistics and Normality Assessment of Research Variables

| Variable | Skewness | Kurtosis | Mean | SD |
|---|---|---|---|---|
| Self-efficacy | -0.97 | 1.84 | 14.58 | 2.33 |
| Resilience | 0.84 | 1.52 | 112.87 | 4.54 |
| Academic engagement | 0.91 | 1.012 | 37.51 | 3.65 |
| Psychological hardiness | 0.88 | 0.64 | 29.21 | 2.98 |

According to the data provided in Table (1), it is evident that the average score for self-efficacy is 14.58, resilience is 112.87, academic engagement is 37.51, and the mean psychological hardiness is 29.21. Furthermore, considering that the skewness and kurtosis values of the data fall within the range of -2 to +2, it can be deduced that the data exhibit a normal distribution at a significance level of 0.05. Table (2) illustrates the matrix of correlation coefficients among research variables.

**Table 2**. Correlation Coefficients Matrix of Research Variables

| Variable | 1 | 2 | 3 |
|---|---|---|---|
| 1. Self-efficacy | 1 | | |
| 2. Resilience | 0.59** | 1 | |
| 3. Academic engagement | 0.61** | 0.57** | 1 |
| 4. Psychological hardiness | 0.48** | 0.65** | 0.61** |

** $p < 0.01$

Table (2) displays the findings of the correlation analysis conducted on the relationship between self-efficacy, resilience, academic engagement, and psychological hardiness. Based on the results obtained, all calculated correlation coefficients are statistically significant ($p < 0.01$). To investigate the model of the relationship between self-efficacy, resilience, academic engagement,

with mediating role of psychological hardiness, path analysis was employed using structural equation modeling. The model fit indices can be found in table 3.

**Table 3**. Model Fit Indices

| Fit indices | Accepted value | Obtained value | Result |
|---|---|---|---|
| IFI | > 0.90 | 0.92 | Suitable |
| GFI | > 0.90 | 0.93 | Suitable |
| RMSEA | < 0.08 | 0.061 | Suitable |
| CFI | > 0.90 | 0.92 | Suitable |
| NFI | > 0.90 | 0.91 | Suitable |

Considering the cumulative model fit indices, the model of the self-efficacy, resilience, academic engagement, and the mediating role of psychological hardiness is confirmed. In table 4 the direct path coefficients of the effects were provided.

**Table 4**. Direct path coefficients of the effects of academic engagement on rumination and cognitive-behavioral avoidance

| Path | | | Beta | T value | p |
|---|---|---|---|---|---|
| Self-efficacy | to | Academic engagement | 0.48 | 2.87 | 0.001 |
| Resilience | to | Academic engagement | 0.41 | 2.75 | 0.001 |
| Psychological hardiness | to | Academic engagement | 0.39 | 2.61 | 0.001 |
| Self-efficacy | to | Psychological hardiness | 0.44 | 2.85 | 0.001 |
| Resilience | to | Psychological hardiness | 0.51 | 3.12 | 0.001 |

According to the table 4, all path coefficients related to the relationship between self-efficacy, resilience, academic engagement, and psychological hardiness are positive and significant ($p < 0.001$). To determine the statistical significance of the mediating role of psychological hardiness in the relationship between self-efficacy and resilience with academic engagement, the bootstrap method was used (table 5).

**Table 5.** Indirect effects

| Indirect path | | | Beta | p |
|---|---|---|---|---|
| Self-efficacy | Psychological hardiness | Academic engagement | 0.17 | 0.05 |
| Resilience | Psychological hardiness | Academic engagement | 0.21 | 0.01 |

According to the obtained results in Table (5), the coefficients related to the indirect effects of self-efficacy and resilience on academic engagement through the mediating variable of psychological


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hardiness are significant ($p < 0.05$). Therefore, the research hypothesis regarding the mediating role of psychological hardiness is confirmed.

## Discussion

The intricate and multifaceted relationship between self-efficacy, resilience, and academic engagement has been the subject of extensive examination. The objective of this study was to investigate this relationship while also taking into account the mediating role of psychological hardiness. The results shed light on the interplay between these psychological factors and their impact on students' active involvement in academic activities.

Self-efficacy (Bandura & Hall, 2018), pertains to an individual's belief in their capacity to succeed in various tasks and challenges. It assumes a pivotal role in academic performance, as students who possess faith in their own abilities are more inclined to undertake demanding academic tasks, invest effort, and persevere in the face of obstacles. To gauge students' self-efficacy, the General Academic Self-Efficacy scale (GASE) was implemented in this study. The utilization of GASE is well-grounded in the existing literature and ensures the reliability and validity of assessing academic self-efficacy (Nielsen et al., 2018). The study's findings reaffirm the positive association between self-efficacy and academic engagement, consistent with prior research (Zajacova et al., 2005).

Conversely, resilience refers to the ability to adapt and recover from challenges and adversities (Kobasa, 1979). Resilient individuals tend to view stressful situations as opportunities for personal growth rather than insurmountable obstacles. In the academic context, resilience is of utmost importance, as students encounter various stressors, such as academic workload and examinations (Feldman, 2021). In this study, a scale was employed to assess academic resilience, aligning with the approach used in earlier research (Cassidy, 2016). The study provides further evidence supporting the positive relationship between resilience and academic engagement, as students with higher levels of resilience are better equipped to cope with academic challenges and maintain their active involvement in their studies.

One of the unique contributions of this study is the examination of psychological hardiness as a potential mediator of the relationship between self-efficacy, resilience, and academic engagement. Psychological hardiness, as delineated by Maddi et al. (2002), encompasses commitment, control,


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and challenge. Individuals with high levels of psychological hardiness are more inclined to perceive academic challenges as opportunities for personal growth and actively pursue their academic endeavors. The findings of this study suggest that psychological hardiness indeed serves as a mediating factor in this relationship, shedding light on the underlying mechanisms through which self-efficacy and resilience influence academic engagement.

To conclude, this study reaffirms the significance of self-efficacy and resilience in fostering academic engagement. It also underscores the mediating role of psychological hardiness, enhancing our comprehensive understanding of the dynamics at play. These findings carry substantial implications for educators and policymakers, emphasizing the importance of nurturing self-efficacy and resilience in students to enhance their academic engagement and, consequently, their academic success.



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**Data availability statement**

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

**Ethics statement**

The studies involving human participants were reviewed and approved by ethics committee of Islamic Azad University.

**Author contributions**

FY contributed to the study conception and design, material preparation, data collection and analysis. The author contributed to the article and approved the submitted version.

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**Conflict of interest**

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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