

The Correlation between Health-oriented Academic Lifestyle and Academic Well-being: The Mediating Role of Academic Resilience

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Abstract

Background: Academic well-being can stimulate students' interest, increase their desire to search, and enhance their curiosity to discover new ideas and expanding beliefs and ideas. Students' academic resilience was examined as a mediating factor in the relationship between a healthy academic lifestyle and academic well-being in high school.

Methods: The study method was descriptive-correlational. The statistical population comprised all high-school male students in Khorramabad (Iran) in 2021, of whom a sample of 400 was selected using multistage random cluster sampling. The suggested model was put to the test using structural equation modeling (SEM). Data analysis was performed in SPSS and AMOS 23.

Results: It was discovered that students' well-being in school was correlated with their health in school, as well as their resilience in school. There was a negative association between academic inhibiting behaviors and academic well-being ($\beta=-0.09$; $P=0.041$) in the students. Academic resilience and academic well-being were shown to have a direct correlation ($\beta=0.61$; $P0.001$) in the students. Also, students' academic resilience was associated with both health-promoting ($\beta=0.12$; $P=0.011$) and health-inhibiting ($\beta=-0.18$; $P=0.002$) activities. Academic resilience had a mediating role in the association between health-oriented academic lifestyle and academic well-being in high school students ($P<0.001$).

Conclusions: Moreover, the model had a good fit to the data. School principals and teachers should improve students' health-promoting behaviors by increasing motivational and emotional variables (resilience).

Keywords: Health, Life style, Resilience, Psychological, Well-being, Students

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1. Introduction

Academic well-being is a new concept adopted from positive psychology, which is a key indicator in evaluating educational systems. Furthermore, this complete notion influences the quality of academic life (1). A student's academic well-being might inspire them to look for new ideas and broaden their views and thoughts, therefore enhancing their drive to learn and grow (2). However, lack of well-being in educational settings can lead to academic underachievement, dropout, disciplinary problems, and so on (3). Academic well-being comprises components such as grade point average (GPA), assignment skills, tendency to drop out of school, satisfaction with academic performance, and academic buoyancy (4). In general, academic well-being refers to an active process whereby learners plan their achievement goals and efforts to control and regulate their cognitive mechanisms, motivation, and behavior, as well as the environmental contextual characteristics (5, 6).

Various factors affect learners' academic well-being, including the health-oriented academic lifestyle. Lifestyle can be interpreted as a set of behaviors adopted to meet one's current needs and express one's particular narrative for one's personal identity (7). To put it another way, a person's lifestyle may be used to gauge their level of achievement in both the individual and societal realms. As a matter of fact, individuals pursue their objectives in a mostly predetermined way via their lifestyles (8). This relatively consistent approach includes many areas of a person's life, including livelihood, leisure, buying and consuming patterns, using the technological products, and the like (9). The emerging idea of a health-oriented academic lifestyle, based on theories of achievement motivation and being influenced by positive education, identifies the most common behavioral manifestations in the face of academic challenges (10). The preferred behavioral patterns that students adopt and display are referred to as academic lifestyle

behaviors in the research on achievement motivation. Depending on its nature and role, each of these practices may either help or harm students' academic health (11). Studies showed that the association between academic well-being and health-oriented lifestyle is affected by various factors, including resilience. Resilience is another factor which directly or indirectly forms the academic well-being. Resilience is a normal concept and construct studied in positive psychology, and most studies on resilience were conducted in developmental psychology (12, 13). The capacity to effectively adjust to dangerous circumstances is resilience. Even though this idea originated in developmental psychology, it was eventually incorporated into social and educational psychology, among others. Educational psychology introduced a more limited area of resilience, i.e., academic resilience, which refers to one's ability to effectively deal with falling behind, pressure, or stress in an educational setting (14, 15). Yang and Wang (16) considered academic resilience as the ability to deal with chronic or temporary academic problems, which reduces academic conflict, dropout, and academic underachievement. Resilience reflects the capacity of a dynamic system to successfully adapt to disturbances that threaten its performance, existence, or growth (17). According to Soufi and colleagues (18), lifestyle choices are good mediators of the relationship between perfectionism, coping mechanisms, accomplishment feelings, and academic success. Based on Ghadampour and colleagues (19), there is a positive and significant association between academic hope, perceived emotional support, and academic well-being. Sari and Fakhruddiana (20) showed that there is a significant association between academic resilience and academic well-being during COVID-19 pandemic. Academic success and wellbeing have a positive and strong correlation, according to Yu and coworkers (21), and this correlation is unaffected by sex or socioeconomic status. Based on the presented materials and research background, this study aimed to investigate the association between health-oriented academic lifestyle and academic well-being via the mediating role of academic resilience in high school students.

2. Methods

This study was descriptive-correlational in

which the population comprised all high-school male students in Khorramabad (Iran) in 2021. The inclusion criteria were being a high-school student and having no history of serious medical and psychiatric illnesses requiring the use of medication. Counselors at the school examined student files for this data. Multistage cluster random selection was used to pick 400 participants, based on Thompson's (22) model (10 to 15 people for each observed variable) and 24 observable variables in this research, which included attrition, missing questionnaires, and outliers. One of the two education districts of Khorramabad was randomly selected. Then, two high schools were randomly selected from the boys' high schools in this area and research questionnaires were provided to the students. The informed consent form was given to the students to fill out if they wished to participate. Based on the form, the participants could withdraw from the study any time, and that their information would remain confidential. After removing incomplete questionnaires and univariate and multivariate outliers, 353 questionnaires remained for data analysis.

2.1. Instruments

Academic Well-Being Questionnaire (AWBQ): This self-report scale was developed by Tuominen-Soini and colleagues (23) On a Likert scale, it examines the respondents' agreement or disagreement with 31 items tapping into their beliefs. This scale has four subscales: academic satisfaction, school burnout, school value, and engagement in homework. Items 1 through 8 are scored in reverse, and there are two scoring options (seven-point and five-point Likert scales). The topics covered in items 1 through 8 include the value of the school, school burnout, academic satisfaction, and engagement in homework from 23 to 31. Tuominen-Soini and colleagues (23) examined the validity of this scale using factor analysis and confirmed its four-factor structure. Persian version of AWBQ was examined by Moradi and colleagues (24), and the results of factor analysis indicated that it consists of the above-mentioned four factors. Four factors were identified in this scale using the confirmatory factor analysis indicators. With a Content Validity Index (CVI) of 0.98 and a Content Validity Ratio (CVR) of 0.97, the validity of the Persian version of the AWBQ was verified (24). The questionnaire's Cronbach's alpha was 0.94, according to the authors (24).

Health-oriented Academic Lifestyle Questionnaire: Salehzadeh and co-workers (25) developed the 124-item Health-oriented Academic Lifestyle Questionnaire. The items are scored on a five-point Likert scale (1=strongly disagree to 5=strongly agree). This questionnaire has two dimensions of academic health-promoting behaviors (10 items for optimism, 8 for academic engagement, 10 for mastery goal orientation, 10 for academic buoyancy, 10 for academic resilience) and academic health-inhibiting behaviors (10 items for learned helplessness, 9 for help-seeking avoidance, 10 for passive aggression, 7 for self-handicapping, 11 for effort avoidance, 10 for academic deception, 10 for maladaptive perfectionism). The validity and reliability of this questionnaire have been deemed optimal by Salehzadeh and co-workers (25). The validity of the Persian version of questionnaire was evaluated by ten experts (CVI=0.97, CVR=0.95). Cronbach's alpha of the health-oriented academic lifestyle questionnaire was 0.90 (25).

The Academic Resilience Inventory: This inventory was developed by Samuels (26). Its final version has 29 questions asking the respondents to rate their academic resilience on a five-point Likert scale from strongly disagree (1) to strongly agree (5). The number of elements was decreased from 40 to 29 after standardization in Iran by Soltaninejad and colleagues (27). It is divided into three subscales: problem/optimistic orientation, future orientation, and communication skills. A Likert scale is used to grade it, with values ranging from 29 to 145. Higher scores indicate higher academic resilience, and vice versa. Cronbach's alpha coefficient for the Persian version of academic resilience inventory was 0.77. Moreover, the validity of the Persian version of

the questionnaire was confirmed by eight experts (CVI=0.99, CVR=0.97) (27).

2.2. Statistical Analyses

Descriptive statistics (mean, standard deviation, and correlation coefficient) were used for data analysis, and SEM was performed to evaluate the proposed model. The bootstrap method was adopted to investigate the indirect associations between variables. Data analysis was performed in SPSS and AMOS 23.

3. Results

The mean and standard deviation (SD) of the age of study participants were 17.25 and 1.62, respectively. Table 1 presents the mean, SD, Pearson correlation coefficients, and minimum and maximum scores, of the research variables. These correlation analyses provide light on the bivariate relationships between the variables under study (Table 1). The study variables are shown in Table 1 together with data for kurtosis and skewness. Regarding mentioned statistics are all between -2 and 2, the assumption of the normality of data distribution was confirmed. According to Table 1, the variance inflation factor (VIF) was <10 and the tolerance index was >0.01; thus, the assumption of a lack of multicollinearity is confirmed. The Durbin-Watson statistic was utilized to test the assumptions of the independence of errors. This value was 2.04; as these values fell within the 1.5-2.5 range, the assumption of the independence of errors was confirmed.

According to Table 2, the original model did not

Table 1: Mean, standard deviation (SD), skewness, kurtosis, and correlation coefficients of the research variables

Variables	Mean (SD)	Skewness	Kurtosis	VIF	Tolerance	1	2	3	4
1- Academic health-promoting behaviors	221.12 (43.22)	0.29	-1.05	1.17	0.94	1			
2- Academic inhibiting behaviors	88.31 (17.98)	0.09	-0.99	1.34	0.74	-0.22**	1		
3- Academic resilience	87.22 (19.17)	0.31	-1.09	1.31	0.76	0.26**	-0.32**	1	
4- Academic well-being	105.33 (31.12)	-0.15	-0.79	1.39	0.71	0.30**	-0.14*	0.61**	1

*P<0.05, **P<0.01, SD: Standard Deviation; VIF: Variance Inflation Factor

Table 2: Fit indicators of the proposed and final models

Fit indicators	χ^2	df	(χ^2/df)	IFI	TLI	CFI	NFI	RMSEA
Proposed model	0.00	-	0.00	98.00	-	95.00	94.00	0.50
Final model	1.98	1	1.98	96.00	97.00	0.99	0.99	0.06

χ^2 : chi-square; df: Degrees of Freedom; IFI: Incremental Fit Index; TLI: Tucker-Lewis index; CFI: Comparative Fit Index; NFI: Normed Fit Index; RMSEA: Root Mean Square Error of Approximation

fit the data well based on various indicators, such as RMSEA; in other words, the model fit indicators were inappropriate owing to the nonimportance of some routes. Figure 1 depicts the suggested model for this study.

The insignificant association between academic well-being and actions that promote academic health was eliminated in order to fix the model. All fit indices demonstrated the final model's satisfactory fit to the data after the non-significant route was eliminated (Table 2). Figure 2 depicts the finished study's model in its entirety.

The results showed that there was no significant

association between academic health-promoting behaviors and academic well-being ($\beta=0.03$, $P=0.342$). Academic resilience and practices that support academic health were positively and significantly correlated ($\beta=0.12$, $P=0.011$). Academic well-being and academic resilience had a positive and significant relationship ($\beta=0.61$, $P=0.001$). There was a negative and significant association between academic inhibiting behaviors and academic well-being ($\beta=-0.09$, $P=0.041$) and between academic inhibiting behaviors and academic resilience ($\beta=-0.18$, $P=0.002$) (Table 3).

The indirect path academic health-promoting behaviors to the academic well-being via the

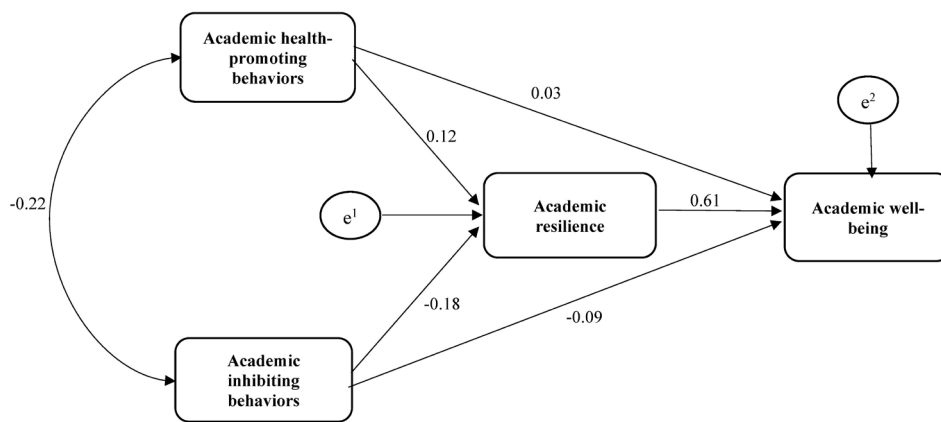


Figure 1: The figure shows the proposed model pertaining to the mediating role of academic resilience in the association between health-oriented academic lifestyle and academic well-being.

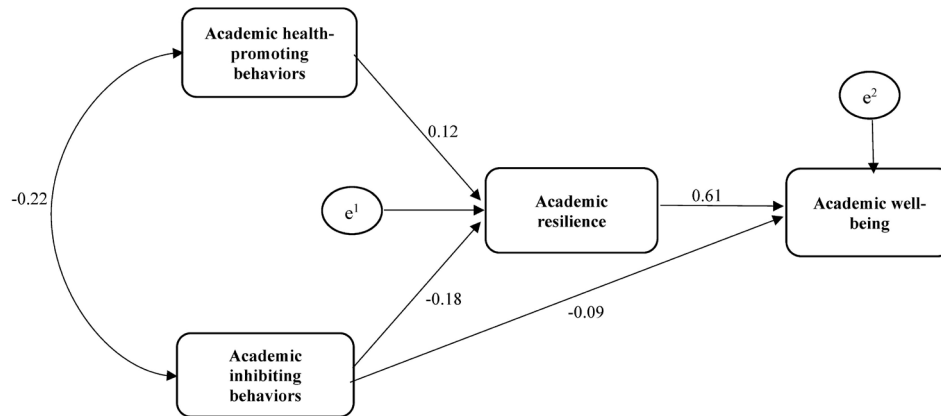


Figure 2: The figure shows the final model pertaining to the mediating role of academic resilience in the association between health-oriented academic lifestyle and academic well-being.

Path	Proposed model		Final model	
	β	P	β	P
Academic health-promoting behaviors → Academic well-being	0.03	0.342	-	-
Academic inhibiting behaviors → Academic well-being	-0.09	0.041	-0.09	0.04
Academic resilience → Academic well-being	0.61	0.001	0.61	0.001
Academic health-promoting behaviors → Academic resilience	0.12	0.011	0.12	0.011
Academic inhibiting behaviors → Academic resilience	-0.18	0.002	-0.18	0.002

Table 4: Results of analysis of indirect and mediating paths in the final model

Predictor variable	Mediator Variable	Criterion variable	Final model	
			β	P
Academic health-promoting behaviors	Academic resilience	Academic well-being	0.14	0.001
Academic inhibiting behaviors	Academic resilience	Academic well-being	-0.17	0.001

mediating role of academic resilience was significant ($\beta=0.14$, $P=0.001$). Moreover, the indirect path from academic inhibiting behaviors to academic well-being through the mediating role of academic resilience was significant ($\beta=-0.17$, $P=0.001$) (Table 4).

4. Discussion

Through the mediating function of academic resilience in high school students, this study evaluated the relationship between a health-oriented academic lifestyle and academic well-being. According to the results, academic resilience moderated the relationship between the students' academic well-being and activities that promote or hinder academic health. This discovery is consistent with the findings of earlier research (18, 20). Another finding was the existence of a significant and negative association between health-inhibiting behaviors and academic well-being. Health-inhibiting behaviors include learned helplessness, help-seeking avoidance, passive aggression, procrastination, self-handicapping, effort avoidance, academic deception, and maladaptive perfectionism. Students who repeatedly fail, feel powerless in situations requiring accomplishment, and lose control of the situation report both less positive and more negative feelings (28). Students who avoid seeking help when needed and follow the behavioral patterns of academic procrastination, academic deception, and self-handicapping as their preferred methods in achievement situations report more negative emotions, less efficiency, and more academic stress. All these negatively affect academic well-being.

There was also a direct association between academic resilience and academic well-being in the students. Academic resilience is the capacity to remain highly motivated for the best possible growth and performance in the face of challenging circumstances when pupils are more likely to do poorly or even fail (12). By increasing the level of achievement motivation and adaptation to adverse academic events, such as academic underachievement or failure, students' assignment involvement, and, thus, their academic performance

is enhanced. According to the literature, adaptation to academic problems increases the likelihood of students' engagement with educational activities and leads to academic achievement and higher-level achievements, such as academic well-being (23).

Additionally, there was a clear link between the kids' academic resilience and health-promoting activities in the classroom. Academic optimism, academic engagement, mastery goal orientation, academic buoyancy, and academic resilience are all healthy academic practices. Students who have higher academic engagement, pay more attention to and have more interest and focus on the target problems and topics, avoid maladaptive and undesirable behaviors, have greater self-confidence, value education, focus more on their studies, insist on their goals despite failure, and view failure as a good opportunity (8). In fact, these students create opportunities from challenges and, thus, have better academic resilience and performance.

A significant and negative association also existed between academic health-inhibiting behaviors and academic resilience. For those who are at risk, resilience functions as a protective barrier against the harmful effects of exposure to risk factors. It is the process of dealing with disruptive, stressful, or challenging events. Resilience is a form of self-healing with positive emotional, affective, and cognitive outcomes. Positive emotions are critical psychological resources that help people use effective coping methods against stress (16). Hence, those with higher levels of positive emotions are more likely to be resilient to adversity. Less positive and more negative emotions are shown by students who choose maladaptive patterns of behavior, who feel powerless in the face of repeated failures, consider events as beyond their control, and who resist seeking assistance when necessary. They probably do not show any resistance to accidents and are not resilient.

The results indicated that there was no significant association between academic health-promoting behaviors and academic well-being in the students, and this path was eliminated. This finding is

inconsistent with the previous research (18). Students who are engaged in academic work to the fullest extent possible and who are upbeat about the future and the results of their efforts are more likely to have pleasant emotions in learning environments. Facing the negative emotions, they can gain control over the situation quickly, and in the face of challenges, can create opportunities for growth and development that will lead to academic well-being.

Furthermore, academic resilience mediated the association between academic health-promoting and -inhibiting behaviors and academic well-being in the students. The researchers found no similar study, so it was impossible to check the mediating effect of academic buoyancy and resilience in the association between health-promoting behaviors and academic well-being with the literature. Students who act in ways that support their academic well-being react favorably to emotions and unfavorably to negative ones. Such students are upbeat and resilient learners who are more robust in the face of challenges and experience greater academic well-being. They are optimistic about the future and the results of their efforts, fully engaged in their academic activities and assignments, and more likely to feel positive emotions in educational settings and situations (9). Students who experience successive failures, feel helpless in achievement settings, and lose control over the situation demonstrate fewer positive emotions and more negative emotions (11). Such students do not have the characteristics of buoyancy and resilience, and this harms academic well-being.

4.1. Limitations

This was a cross-sectional study, and the variables were measured at one point in time, during the COVID-19 pandemic. As a result, affiliations might change over time. Because only male high school students were included in the sample, conclusions should only be cautiously extrapolated to other educational levels. The sample comprised students in Khorramabad, and local and cultural characteristics may have affected the results; thus, the results cannot be generalized to the general student population.

5. Conclusions

The findings generally revealed that there was

a direct association between academic health-promoting behaviors and academic well-being in the students. Additionally, there was a direct correlation between academic resilience and academic well-being, a negative correlation between academic health-inhibiting behaviors and academic resilience, as well as an inverse relationship between academic health-inhibiting activities and academic well-being. It is, therefore, suggested that the academic well-being of adolescents, who are the future assets of any country, be improved using experimental research and the development of interventional packages. Moreover, school principals and teachers should improve health-promoting behaviors among students by promoting motivational and emotional constructs (resilience).

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Ethical Considerations

The study was approved by the Ethical Committee of Islamic Azad University- Ahvaz Branch with the code of IR.IAU.AHVAZ.REC.1399.084. Also, written informed consent was obtained from the participants.

Conflict of Interest: None declared.

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