The Association between Self-Compassion and Academic Well-Being with the Mediating Role of Perceived Academic Stress and Academic Optimism in Female Students

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Abstract

Background: Academic well-being is among the most recent concepts of positive psychology, which greatly contributes to the students' sense of security and health in the academic setting and improves their academic performance. The study aimed to investigate the association between self-compassion and academic well-being with the mediating role of perceived academic stress and academic optimism in female students in Kermanshah, Iran.

Methods: The study was a descriptive correlation. The statistical population comprised all the female high-school students in Kermanshah in the academic year 2020-2021. Through the use of stratified random sampling method, 226 of the female students were selected as the sample. The research tools included the Academic Well-Being Scale, the Self-Compassion Scale, the Academic Stress Questionnaire, and the Life Orientation Test. The path analysis method was used to investigate the proposed model.

Results: The results showed that there was a direct and crucial association between self-compassion and academic optimism (P<0.001), and between academic optimism and academic well-being (P<0.001). Moreover, there was a negative association between self-compassion and perceived academic stress (P<0.001), and between perceived academic stress and academic well-being (P<0.001). There was no significant relationship between self-compassion and academic well-being (P= 0.381). The path analysis results indicated that the perceived academic stress and academic optimism had a mediating role in the association of self-compassion with academic well-being (P<0.001).

Conclusion: The proposed model had a good fit. Consequently, improving self -compassion and academic optimism could improve the academic well-being of female students.

Keywords: Academic well-being, Self-compassion, Stress, Optimism

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1. Introduction

While criticizing the current approach adopted by educational systems, researchers have recently turned their attention to the connection between emotional and academic functions among students (1). The relationship between the learner and school is greatly improved if the academic and emotional functions are taken into account simultaneously in educational planning. A balanced relationship clearly promotes the students' academic adjustment and well-being in the educational setting (2, 3). The concept of academic well-being in education has recently received attention from a large number of researchers as a new construct in academic achievement. Recent studies suggest a relationship between academic achievement and well-being, meaning that the promotion of students' academic well-being contributes to their academic achievement (4, 5).

Academic well-being was developed to link the emotional and academic functions and improve the learner-school relationship. Accordingly, the construct of academic well-being was defined in relationship with four school dimensions. The first dimension is the school value, i.e., the degree of importance and sanctity the school has for the students, their goals, and the meaning they search for at school. The second dimension of academic well-being is academic burnout, i.e., a state of mental and emotional fatigue resulting from chronic stress syndrome, including role overload, pressure, time limitations, and a lack of resources for fulfilling one's duty. The third one is homework involvement, i.e., involvement with the school tasks as a positive and

concentrated state of the mind characterized by spending energy, attentional stability, and understanding the accompanying materials. The fourth component is academic satisfaction meaning personal satisfaction with the chosen path to achieve one's goals (6, 7). Academic well-being is among the most recent concepts of positive psychology, which greatly contributes to the students' sense of security and health in the academic setting and improves their academic performance. Experimental evidence suggests that academic well-being is directly related to different factors, hence the present study aimed to examine the most important predictors and mediators of students' academic well-being. One of the factors affecting this relationship is self-compassion (8, 9). Reyes (10) believes that self-compassion is rooted in stressful conditions and pressures in life. According to whom, before being a negative and neutral emotional pattern, this construct acts as an effective emotion regulation strategy resulting in the formation of positive feelings about compassion. Self-compassion is a new concept in psychology that has somewhat replaced the concept of self-value (11). This concept means being compassionate and having a non-judgmental understanding of oneself (12). Cadime and other colleagues (13) and Gilbert and Procter (14) reported that increasing self-compassion enhances academic well-being. Mohammadi Youzbashkandi and other colleagues (15) demonstrated that the direct path from a sense of integrity, self-compassion, and responsibility to academic well-being was significant among university students. Akhash and other colleagues (16) also revealed that academic well-being can be predicted based on self-compassion.

There are factors mediating the relationship between students' self-compassion and academic well-being that can be examined to improve academic well-being. One mediator is the students' perceived academic stress. Academic stress indicates one's increasing need for knowledge and one's perception of having little time for acquiring that knowledge (17, 18). The five stressful factors (failures, conflicts, pressures, changes, and self-inflicted stress) and the four reactions to these factors (physiological, behavioral, cognitive, and emotional) are also emphasized (19). Stress expresses the internal perceived understandings and emotions, and stressful factors indicate some situational demands such as intense events or persistent pain (20). In defining perceived academic stress, Klink and other colleagues (21) have noted the person's evaluation based on the experience of incongruity between situational demands and intrapersonal resources. Sahraei and other colleagues (22) showed that the achievement emotion is a good fit for the relationship between academic self-efficacy beliefs and academic well-being. Behroozi and other colleagues (23) reported that self-efficacy beliefs, self-respect, and academic stress can predict the components of academic well-being. Academic optimism is another mediator for the relationship between self-compassion and academic well-being among students. Optimism is defined as the ability to see the world and its events in a better light, and the capability to react correctly to the realities of life (24). Scheier and Carver (25) regarded optimism as an interpersonal difference variable reflecting a domain in which people maintain generalized positive experiences for their future. Optimism is defined as a relatively stable personal characteristic that determines one's behaviors (26). Researchers emphasize that hopeful and optimistic people are certain that they will achieve their future goals (27, 28). Based on Carver and Scheier's model, optimism and pessimism respectively indicate the expectation of positive and negative outcomes in the future (24). Various results have demonstrated the relationship between optimism and well-being, health, and satisfaction with life (29, 30). Carver and other colleagues (31) believed that optimists are certain that they will achieve their goals, while pessimists doubt it. Isazadegan and other colleagues (32) reported that the meaning of education, hope, and optimism are significantly and positively related to academic performance. Carmona-Halty and other colleagues (33) demonstrated that positive academic emotions lead to optimism and hopefulness and help increase high-school students' academic performance.

Different factors make academic well-being a major research domain; these include the effect of well-being on academic performance, students' commitment to performing academic tasks at school, interest in continuing their education, and scientific participation after graduation. There is a need to plan and resolve the upcoming problems of high-school students, due to their importance in the future of the society. Therefore, based on the issues outlined above, the main objective of the current study was to investigate the association between self-compassion and academic well-being with the mediating role of perceived academic stress and academic optimism in female students.

2. Methods

The study was a descriptive correlation. The statistical population comprised all the female high-school students in Kermanshah, Iran in the academic year 2020-2021. The initial sample included 300 female high-school students selected employing the stratified random sampling method. Ten female high schoolers were randomly selected, and then two classes were randomly chosen from each school. All students in the classes were included in the study. Seventy-four questionnaires were excluded from the research due to incomplete filling and the exclusion criteria. The sample size was sufficient based on the research variables and sampling formula in structural equation modeling.

Due to the COVID-19 pandemic and holding classes online, questionnaire links were provided to participants for online response. After removing invalid questionnaires, a sample of 226 students was finally selected. The inclusion criteria were: age range between 15-17 years, not being under treatment for a mental health condition according to the self-declaration, and consent to participate in the study. The exclusion criteria included not answering all the questions in the questionnaire. Information confidentiality, willingness to participate in the research, and observance of participants› rights were the ethical considerations of the study.

Research Instruments

Academic Well-Being Scale: Tuominen-Soini and other colleagues (7) developed the Academic Well-Being Scale by aggregating the four dimensions of school value, school burnout, academic satisfaction, and homework involvement. This scale is a self-assessment tool that examines the respondents' level of agreement/disagreement with 31 items on a Likert scale. Tuominen-Soini and other colleagues (7) reported optimal validity for the scale, and calculated the Cronbach›s alpha of 0.64, 0.77, 0.91, and 0.94, for the four mentioned dimensions, respectively. Furthermore, Moradi and other colleagues (6) assessed the psychometrics of the Persian version of the scale among Iranian adolescents and reported suitable reliability and validity. To this end, they calculated an RMSEA of 0.06. They also obtained the reliability of 0.88, 0.73, 0.73, and 0.75 for school value, school burnout, academic satisfaction, and

homework involvement, respectively. In the present study, Cronbach's alpha coefficient was 0.82 for the scale.

Self-Compassion Scale

This scale was developed by Reyes (10). It comprises 12 items scored on a five-point Likert scale (from 1=totally disagree to 5=totally agree). The scores range from 12 to 60, and the lower the score, the higher the respondents' self-compassion would be. Content validity of the Persian version of self-compassion scale was desired according to Shahbazi and other colleagues (34) and the total test reliability was 0.91. In the current study, Cronbach's alpha coefficient was 0.80 for the scale.

The Academic Stress Questionnaire

This questionnaire was developed by Sun and other colleagues (35). It comprises 16 items scored on a five-point Likert scale (from 1=totally disagree to 5=totally agree). The scores ranged from 16 to 80, and the higher the score, the higher the respondents' stress would be. Sun and other colleagues (35), reported Cronbach's alpha coefficient of 0.78 for Persian version of the questionnaire. The validity of the Persian version of the questionnaire was confirmed by Shokri and other colleagues (36). In Iran, AramFar and Zeynali (37) reported a Cronbach's alpha of 0.73 for the whole questionnaire. In this study, reliability of the academic stress questionnaire was measured by Cronbach's alpha that was 0.80 for the entire questionnaire.

The Life Orientation Test (LOT)

The life orientation test included ten-item and developed by Scheier and Carver in 1985 (25). Items 2, 5, 6, and 8 are fillers and no score is assigned to them; Items (1, 4, 10) are for the optimism subscale and items (3, 7, 9) are for the pessimism subscale. The overall score of optimism is obtained by adding the scores of questions 1, 3, 4, 7, 9, and 10. The items are scored based on a five-point Likert scale ranging from 0 to 4. The scores ranged from 0 to 24, and the higher the score, the higher the respondents' optimism would be. Besides, factor analysis of dispositional optimism and its related constructs has shown that dispositional optimism is an independent and distinct factor, indicating discriminate validity of the questionnaire (38). This questionnaire was translated

into Persian by Kajbaf and other colleagues (39) and its validity was confirmed. Kajbaf and other colleagues (39) reported an alpha Cronbach coefficient of 0.72 for the questionnaire. In this study, Cronbach›s alpha coefficient was 0.83 for the scale.

Statistical analyses

Data were analyzed by descriptive and inferential statistics. The path analysis method was used to investigate the proposed model. SPSS and AMOS software version 25.0 were further used for analyzing the data.

3. Results

The participants included 226 female high-school students, aged between 15 and 17 years old. Mean, standard deviation (SD) and Pearson correlation coefficient of study variables are presented in Table 1. The initially proposed model to clarify academic well-being based on self-compassion, perceived anemic stress, and academic optimism are depicted in Figure 1. Based on Table 2, the RMSEA=0.337 indicates that the initial model needs modification. The final model is presented in Figure 2. In the final model, an RMSEA= 0.001 suggests its good fit.

Table 1: Mean, Standard Deviation, and Pearson Correlation Coefficients of the study

Variables	Mean	Standard Deviation	1	2	3	4
Academic well-being	128.35	44.27	1			
Self-compassion	39.06	16.66	0.309**	1		
Perceived academic stress	50.18	46.17	-0.421**	-0.389**	1	
Academic optimism	16.50	3.72	0.445**	0.397**	-0.291**	1

**: P<0.001

Table 2: Initial and Final Model Fit Indicators

Fit indicators	χ^2	df	(χ^2/df)	IFI	TLI	CFI	NFI	RMSEA
Initial model	5.641	1	5.641	0.969	0.810	0.968	0.963	0.337
Final model	0.612	1	0.612	0.999	1.00	1.00	0.997	0.001
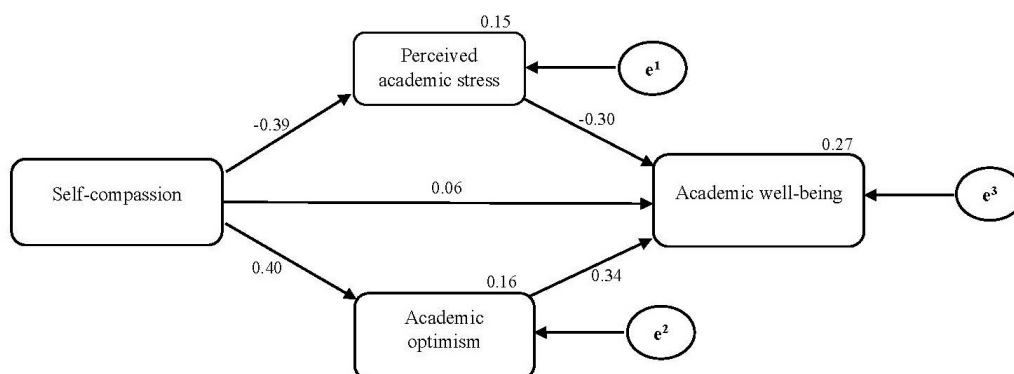
Figure 1: The figure shows the initial model of the mediating role of perceived academic stress and academic optimism in the association of self-compassion with academic well-being.

The findings related to the path coefficients' estimation for examining the direct hypotheses are presented in Table 3. According to which, there was a direct and significant association between self-compassion and academic optimism (P<0.001), and between academic optimism and academic well-being in the female high-school students (P<0.001). Moreover, there was a negative connection between self-compassion and perceived academic stress in the students (P<0.001), and between perceived academic stress and academic

well-being (P<0.001). There was no significant association between self-compassion and academic well-being in the female high-school students (P=0.381).

Table 4 illustrates a substantial indirect path from self-compassion to academic well-being through the parallel mediator of perceived academic stress and academic optimism in the female high-school students (β=0.079), which is statistically significant (P<0.001), and this path is thus confirmed.
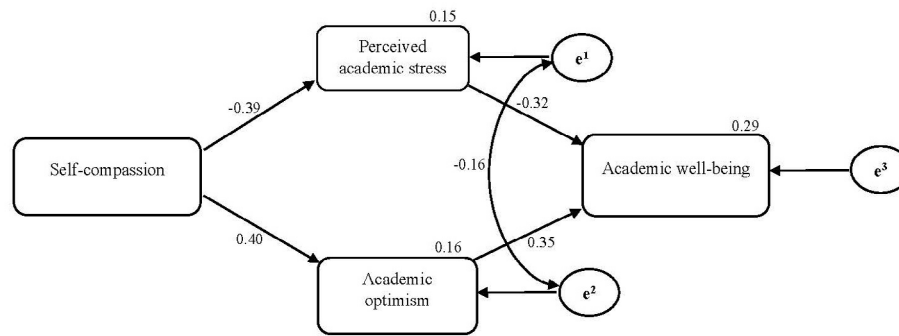
Figure 2: The figure shows the modified final model of the mediating role of perceived academic stress and academic optimism in the association of self-compassion with academic well-being.

Table 3: Path coefficients of direct effects between study variables in the initial and final modified model

Path	Initial model			Final modified model		
	Path type	β	P	Path type	β	P
Self-compassion to academic well-being	Direct	0.060	0.381	Direct	-	-
Self-compassion to academic optimism	Direct	0.398	<0.001	Direct	0.398	<0.001
Self-compassion to perceived academic stress	Direct	-0.389	<0.001	Direct	-0.389	<0.001
Perceived academic stress to academic well-being	Direct	-0.305	<0.001	Direct	-0.318	<0.001
Academic optimism to academic well-being	Direct	0.339	<0.001	Direct	0.353	<0.001

Table 4: Results of the bootstrap method for investigating indirect and intermediary paths

Predictor variable	Mediator Variable	Criterion variable	Initial model		Final modified model	
			Bootstrap	P	Bootstrap	P
Self-compassion	**Perceived academic stress and academic optimism**	**Academic well-being**	0.075	<0.001	0.079	<0.001

4. Discussion

The present study aimed to investigate the association between self-compassion and academic well-being with the mediating role of perceived academic stress and academic optimism in female high-school students in Kermanshah city in the academic year 2020-2021. The results indicated that all the paths, except for the path from self-compassion to academic well-being, were significant. The indirect paths were also important through the parallel mediator of perceived academic stress and academic optimism with academic well-being.

Based on these results, there was no crucial interdependence between self-compassion and academic well-being. This is inconsistent with the results of Cadime and other colleagues (13), Mohammadi Youzbashkandi and other colleagues (15), and Akhash and other colleagues (16). In previous studies, the connection between self-compassion and academic well-being was significant based on correlation coefficient tests and regression analysis; however, in the present study, the hypotheses were tested via path analysis.

Herein, this relationship between the two was also significant based on Pearson's test; nevertheless, in the model, all the share and effect of self-compassion on academic well-being was explained through mediators (indirect association). In other words, in this model, self-compassion affects academic well-being indirectly. Therefore, this finding is somehow in line with the findings of previous studies. One can argue that academic well-being and self-compassion are based on the theoretical foundations of positive psychology; concepts such as self-compassion, satisfaction, mindfulness, optimism, hope, and self-efficacy are the components of this approach; subsequently, academic well-being and self-compassion entered the school domain in this way. People with self-judgment and negative emotions such as anger and anxiety are at a higher risk of educational failure and dropout; as a result, they fail in all domains of life, and this sense of failure and academic pessimism leads to failure in academic performance (40).

Another finding revealed that a significant negative association exists between perceived academic stress and academic well-being. This is consistent with the results

of Sahraei and other colleagues (22), and Behroozi and other colleagues (23). Students perceived academic stress can be regarded as a positive or a negative experience that affects their life and performance. Education is never free from stressful activities, and high-school students are in the critical period of puberty and entering adulthood. Although the experience of stress is evident among students, if this stress is prolonged or severe, it can affect their academic achievement and performance. It also reduces their abilities in life interactions and social participation and increases narcotic abuse and high-risk behaviors, thereby reducing academic well-being (41).

A significant positive association existed between academic optimism and academic well-being. This is in agreement with the results of Isazadegan and other colleagues (32), and Carmona-Halty and other colleagues (33). This means that, by increasing the students' academic optimism, one can expect a rise in their academic well-being. Students with a high degree of optimism have more energy to perform their academic tasks, have higher educational motivation, and thus have enhanced educational well-being. Since all academic functions and outputs are mutually effective, optimistic students who are well capable of the optimal management of motivating situations can experience a higher level of psychological adjustment. As a result, they have stronger social skills, which increase their level of positive emotional experiences and a sense of satisfaction. On the other hand, students with a higher level of optimism suffer from academic burnout less, and have higher academic and educational well-being and satisfaction compared to other students.Another finding of the present study indicated that perceived academic stress and academic optimism mediated the link between self-compassion and academic well-being. A review of the literature yielded no study for the comparison of this finding. Based on the results, the association between self-compassion and academic well-being was not significant; however, it was revealed that self-compassion is related to academic well-being if only it can reduce perceived academic stress firstly and increase academic optimism. In this relationship, numerous factors influence the students' academic achievement, well-being, and performance in a natural way. Some of these factors either improve or weaken their academic well-being and performance. Perceived academic stress is one factor that negatively affects the students' academic well-

being and performance. Students who follow the positive components of self-compassion (self-kindness, common humanity, and mindfulness) and optimism in their education possess the positive components of academic well-being (interest in school and perceived academic self-efficacy). On the other hand, students who follow the negative components of self-compassion (isolation, self-judgment, and over-identification) and follow perceived academic stress in their education possess the negative components of academic well-being (destructive behaviors). Students who have a high level of self-compassion plan better and academic optimism will form better in them; therefore, they can deal with perceived academic stress and, as a result, their well-being will be markedly increased.

The present study was conducted among female high-school students in Kermanshah. Therefore, the results should be generalized to other female and male students in other areas of the country with caution. In addition, there were variables such as the participants' age, economic status, and parents' education level that affect academic well-being but were not controlled in the present study; it is recommended that these variables be taken into account in future studies.

5. Conclusion

Based on the results of the present study, the proposed model has a good fit. The model is a big step towards understanding the factors that affect students' academic well-being and could benefit the development and the design of preventive programs for improving students' academic well-being. As a practical recommendation, those in charge of education in Iran are suggested to plan the educational atmosphere of schools in a way that students can exploit their positive personality and behavioral aspects more; hence, their academic well-being can be improved via enhancing their academic optimism and reducing their perceived academic stress.

Ethical Approval

The Ethics Review Board of Islamic Azad University Ahvaz Branch approved the present study with the following number: IR.IAU.AHVAZ.REC.1399.101.

Conflicts of interest

The authors declared no conflict of interest.

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