

Original Article

Forecast of Academic Vitality Based on Family Emotional Atmosphere, Flourishing, and Self-Compassion in Students of Kermanshah University of Medical Sciences in 2019-2020

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Abstract

Background & Objective: Academic vitality is one of the effective factors of learning and plays a significant role in the academic success of students. The present study aimed to predict academic vitality in students based on family emotional atmosphere, flourishing and self-compassion.

Materials & Methods: This was a correlational study performed on all BSc students of Kermanshah University of Medical Sciences in the first semester of 2019-2020. In total, 339 subjects were selected by random sampling, and data were collected using the academic vitality scale, the affective family emotional atmosphere questionnaire, the self-compassion scale, and the flourishing questionnaire. Data analysis was performed in SPSS version 24 using descriptive statistics and the canonical correlation method.

Results: In this study, there was a significant relationship between academic vitality and family emotional atmosphere, flourishing and self-compassion in students ($F=75.38$, $\lambda=0.69$, $P<0.001$). Furthermore, the regression analysis results explained 31% of the variance of academic vitality with predictors of family emotional atmosphere, flourishing and self-compassion.

Conclusion: Our findings could be used by higher education planners to adopt appropriate educational policies in order to recognize factors affecting vitality.



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Introduction

Every year, new students are enrolled in universities and other students graduate from universities, and attention to education quality is extremely important in this continuous cycle. Universities of medical sciences accept several students every year, and attention to factors that might affect their academic achievement and learning can lead to the improvement of universities as well (1, 2). Academic vitality is a factor that can result in students' academic achievement (2). This concept has been identified as an influential factor in education, used by students as a strategy to deal with educational problems (2, 3). In addition, academic vitality refers

to a positive and constructive response to different types of challenges faced during education (4). It reduces the probability of failure and dropouts in students and is highly correlated with adaptive behaviors in educational environments (5). In fact, people with high academic vitality have higher educational motivation, are more optimistic about their academic future, and experience higher self-efficacy (4). Factors affecting academic vitality have been introduced in three levels of psychological factors, factors related to the educational environment and participation in the educational process and factors related to family and peers (6). In the latter group, the family emotional atmosphere has

been recognized as a factor affecting academic vitality in students (2). In general, the family emotional atmosphere is about how family members communicate with each other, which can be observed in the opinions of family members about each other, their emotions and love for each other and how they interfere in each other's businesses or how they cooperate or compete with each other (2).

Establishing and maintaining active family relationships and receiving emotional support from family members increases the person's self-confidence and provides the potential force for supporting emotional health, increasing the ability to deal with academic life challenges and progress in academic performance (7). In this regard, Samari Safa et al. (2021) performed a study on first- and second-grade high-school students in Isfahan, and their results showed the significant effect of the family emotional atmosphere on the academic vitality of the participants (7). In a study on high school girl students in Saveh, Fakharian et al. (2019) found a significant and positive relationship between the family emotional atmosphere and academic vitality (2). Flourishing is one of the factors that can affect students' academic vitality by increasing positive emotion and academic enthusiasm (8). Flourishing is a construct in positive psychology that refers to the type of living with constant optimism. Flourishing is associated with positive reactions, positive relationships with others, life expectancy and a low level of depression (9). In addition, students with high flourishing experience better academic achievement, compared to their peers. There is a positive relationship between flourishing and focus, attention and commitment to assignments, which are the main features of academic involvement (10). In this regard, Abdi and Zandipayam (2019) conducted a study on students of Kermanshah University of Medical Sciences, reporting a positive relationship between flourishing and academic vitality in the end (6). Furthermore, Radmehr and Jahangiri (2019) performed a research on students of Kermanshah

University of Medical Sciences. According to their results, flourishing played a role in students' academic success (8). Self-compassion is a factor that may affect academic vitality by creating positive features such as reasonable self-perception, patience, emotional balance during difficult experiences, hope in life and increased flexibility (11). Generally speaking, self-compassion is having a kind attitude toward oneself and acceptance of unfavorable aspects of one's life. It includes three main components of: self-kindness vs. self-judgement, common humanity vs. isolation and mindfulness vs. over-identification (12). As a form of communication with self, compassion increases the amount of effort of a person. In addition, people with high self-compassion act more efficiently in various and challenging academic and occupational situations. One can deal with their problems and have higher academic vitality by identification of one's competencies through self-kindness (11). In this respect, Mahbod and Khormaie (2019) conducted a study on BSc students of the University of Shiraz, demonstrating the significant role of self-compassion in predicting students' academic vitality (11). Since studies in the field of academic vitality as one of the factors of academic achievement in higher education are in the early stages, identifying the factors that increase the academic vitality of students should be one of the axes of academic research. A review of research outcomes and processes revealed that family emotional atmosphere, self-compassion and flourishing are three variables involved in the forecast of academic vitality. The fact that the effect of the mentioned components on the academic vitality of students has been separately assessed in previous studies and little attention has been paid to their simultaneous impact is the main reason for performing the present research. It is notable that today, researchers in the field have recommended the assessment of the simultaneous impact of these variables. On the other hand, the current research attempted to pave a new path on existing knowledge in this field with a new perspective and by introducing

variables of the clinical field such as flourishing and self-compassion in the area of education. Given the inadequate number of studies performed on flourishing and self-compassion in the academic field, the current research could clarify the mechanism of the effect of flourishing and self-compassion on academic vitality and strengthen knowledge in the field by filling the research gap. With this background in mind, the present study aimed to predict the academic vitality of medical students based on family emotional atmosphere, flourishing and self-compassion.

Materials and Methods

This was a descriptive and correlational study performed on BSc students of Kermanshah University of Medical Sciences, Kermanshah, Iran in the first semester of 2019-2020. According to the viewpoint of Stevens (13), 15 cases must be considered for each predictor in a multiple regression analysis with a conventional method of the least-squares method. Nonetheless, the researcher will be better able to show a small effect size if 30 subjects exist per variable. However, considering a 10% attrition rate, a total of 339 students (162 female and 177 male students) were selected by multistage random sampling. First, five schools of pharmacy, paramedicine, nursing, health and nutrition sciences were chosen, from each of which three classes were selected. Afterwards, 25 students were randomly selected from each class (the classrooms of the schools had almost the same number of students). After the assessment, the incomplete questionnaires ($n=36$), which means that the final sample size was estimated at 339 students. The research instruments were provided to the participants following explaining the research objectives to them and receiving informed consent from these individuals. Instructions on how to answer the questions were taught to the subjects and they were asked to carefully study the questions and choose the answers appropriate to their characteristics and not leave any

question unanswered as much possible as. In this research, the inclusion criteria were being a medical student and willingness to participate in the study. Data were collected using four tools, which were the academic vitality scale, the emotional atmosphere questionnaire, the self-compassion scale and the flourishing questionnaire.

The academic vitality scale was developed by Dehghanizadeh and Hosseinchari by expanding the academic vitality scale presented by Martin and Marsh (15). The tool encompasses nine items scored based on a five-point Likert scale from completely disagree (score=1) to completely agree (score=5). The sum of the scores of nine items shows an overall score that indicates the level of academic vitality. Therefore, the score range of each person is 9-45 (14). In a study by Dehghanizadeh et al., the reliability of the scale was confirmed at a Cronbach's alpha of 0.77. In addition, the instrument's validity was approved based on the correlation of each item with a total score in the range of 0.54-0.64 (14).

Affective Family Emotional Atmosphere Questionnaire was introduced by Hilburn in 1964 to assess the degree of affection built into child-parent interactions. The instrument comprises 16 questions and dimensions of love, cuddling, confirming, shared experience, gift-giving, encouraging, trusting, and feeling secure. Items are scored based on a five-point Likert scale from very low (score=1) to very high (score=5). In addition, the maximum and minimum scores are 80 and 16, respectively. In a study performed on high-school students of Ahvaz to determine the concurrent validity of the mentioned instrument, Koti et al. (2007) reported the validity coefficient of the tool to be 0.67 (16). Moreover, in a study by Asgari et al. (2011) performed on students of Islamic Azad University, Ahvaz Branch, to evaluate the internal consistency of the affective family emotional atmosphere questionnaire, the values of 0.85, 0.77 and 0.77 were obtained by Cronbach's alpha, split-half and Gottman methods, respectively, which demonstrated the acceptable reliability of the

tool. In addition, to confirm the instrument's face validity, the questionnaire was provided to 10 psychology professors. In the end, the scores of 0.86 and 0.79 were achieved for the total content validity of the tool and content validity rate, respectively, which indicated appropriate validity of the tool (17).

The self-compassion scale was designed by Neff et al. (2003) and includes 26 items and six constituent components of self-kindness vs. self-judgment, common humanity vs. isolation, mindfulness vs. overidentification. The items are scored based on a five-point Likert scale from almost never (score=1) to almost always (score=5). The creators of the tool have reported its validity coefficient at 0.79 and 0.76 by two Cronbach's alpha and split-half methods, respectively (12). In Iran, Khanjani et al. (2016) conducted a study on students of Shahid Beheshti University (18). According to their results, the self-compassion scale had a negative and significant correlation with perfectionism (-0.33), negative emotion (-0.38), and external shame (-0.21), which showed the convergent validity of the instrument. Furthermore, the questionnaire of external shame, perfectionism and negative emotion was used to evaluate the convergent validity of the self-compassion scale. In this regard, the Pearson's correlation coefficient among the scores of the tools and the self-compassion scale was calculated. In this regard, a negative and significant correlation was observed between the scores of self-compassion scale and external shame questionnaire (-0.21), perfectionism (-0.33) and negative emotion (-0.38), which demonstrated the appropriate divergent validity of the self-compassion scale (18). Moreover, the Cronbach's alpha of the total questionnaire and factors of "self-compassion vs. self-judgement", "common humanity vs. isolation" and "mindfulness vs. overidentification" were estimated at 0.79, 0.68, 0.71 and 0.86, respectively, which indicated the appropriate reliability of the scale. Furthermore, the test-retest reliability of 0.90 after the implementation of the self-compassion tool with a one-week interval

was indicative of the high retest reliability of the instrument (18).

The flourishing questionnaire was developed by Diener and Biswas-Diener and includes nine items scored based on a seven-point Likert scale from completely disagree (score=1) to completely agree (score=7). The minimum and maximum scores of the tool are 8 and 56, respectively, where the higher score is indicative of higher flourishing (19). In a study by Diener et al. (2010) on 689 students from six regions of the United States (20), the factor analysis results were indicative of the presence of a factor, and the tool's reliability was calculated at 0.87 and 0.71 by the Cronbach's alpha and retest coefficient methods, respectively (20). In Iran, Moradi et al. (2014) used the Farsi translation of the tool for the first time in a study on students of the medical school of Isfahan University of Medical Sciences (21). The results of their factor analysis indicated the existence of a factor. Moreover, the reliability of the tool was estimated at 0.82 and 0.80 by the Cronbach's alpha and split-half methods, respectively. Moreover, the validity of the flourishing tool was evaluated and the correlation of the items with the total score was estimated in the range of 0.52-0.76, respectively, which demonstrated the suitable validity of the instrument.

Ethical Considerations

This article was approved by the ethics committee of Shahid Bahonar University of Kerman with the ethical code of IR.UK.REC.1399.123. Moreover, to adhere to ethical principles of research, the researcher introduced himself, explained the research objectives and received informed consent from the participants. It is notable that participation in the research was voluntary and the subjects were ensured of the confidentiality terms regarding their personal information.

Data Analysis

Data analysis was performed in SPSS version 20 using descriptive statistics (mean and standard deviation), canonical correlation (to evaluate the

significance of the relationship between academic vitality and family emotional atmosphere, flourishing and self-compassion), and simultaneous multiple regression (to forecast academic vitality based on family emotional atmosphere, flourishing and self-compassion).

Results

In total, 339 students filled the research tools, 162 of whom were female and 177 were male. Regarding school, 73 subjects were selected from the nursing school while 59, 65, 75 and 67 participants were

selected from schools of health, paramedicine, pharmacy and nutrition sciences, respectively. The mean age of the subjects was reported to be 21.14 ± 2.58 years. In addition, the mean GPA of students was 17.66 ± 1.45 , and the lowest and highest GPAs were 15.23 and 18.54, respectively. In terms of marital status, 298 subjects were single and 41 were married. Moreover, 58 subjects had good welfare, whereas 184 and 97 individuals had moderate and poor welfare, respectively. Table 1 shows the indicators of predictors and criterion variables.

Table 1: Mean and standard deviation of variables

variable	Mean	Standard Deviation
Academic Vitality	31/42	5/61
Family Emotional Atmosphere	45/38	7/49
Flourishing	39/14	6/31
Self-compassion	54/62	8/3

Significance of Full Canonical Correlation Model

As observed in Table 2, the significance of Wilks' Lambda demonstrated a significant relationship between academic vitality variables and family emotional atmosphere, flourishing and self-compassion ($F=75.38$, $\lambda=0.69$ and $P<0.001$). In other words, family emotional atmosphere, flourishing and self-compassion had a significant correlation with

students' academic vitality. Moreover, the model presented in the current research explained 31% of the variance of family emotional atmosphere, flourishing and self-compassion (in the role of the predictor) in academic vitality (in the role of criterion variable).

Table 3 shows the correlation matrix of the research variables.

Table 2: tests of the full canonical correlation model

Test name	Value	F	Hypothesis df	Error df	SIG	ETA
Pillai's Trace	0/48	59/12	3	465	0/001	0/48
Wilks' Lambda	0/69	75/38	3	343	0/001	0/48
Hotelling's Trace	0/91	81/54	3	392	0/001	0/48
Roy's Largest Root	0/47	-	-	-	0/001	0/48

Table 3 the correlation matrix of the research variables

research variables	1	2	3	4
Academic Vitality	1			
Family Emotional Atmosphere	0/31**	1		
Flourishing	0/41**	0/27**	1	
Self-compassion	0/33**	0/35**	0/28**	1

According to the results presented in Table 3, there was a significant relationship between academic vitality and family emotional atmosphere ($r=0.31$), academic vitality and flourishing ($r=0.41$), and academic vitality and self-compassion ($r=0.33$).

According to the simultaneous multiple regression results presented in Table 4, the multiple correlation coefficient for the linear composition of the family emotional atmosphere, flourishing and self-compassion with academic vitality was estimated at $R=0.34$ and the coefficient of determination was calculated at $R^2=0.18$. In addition, F related to the

multiple correlations obtained was equal to 37.56, which was significant at $P<0.001$. According to the coefficient of determination calculated, about 18% of the variance of academic vitality variable could be predicted by predictors of family emotional atmosphere, flourishing and self-compassion. In other words, family emotional atmosphere, flourishing and self-compassion predicted students' academic vitality. As observed, a beta of all three variables was significant. However, flourishing had the highest prediction ability ($\beta=0.28$).

Table 4: The results of multiple regression analysis of prediction of academic Vitality based on Family Emotional Atmosphere, Flourishing, Self-compassion

Predictive variables	R	R^2	F	β	T	Sig
Family Emotional Atmosphere	0/30	0/11	34/93	0/16	5/67	0/000
Flourishing	0/40	0/16	46/28	0/28	6/38	0/000
Self-compassion	0/31	0/12	35/46	0/17	5/78	0/000
Linear combination of variables	0/34	0/18	37/56			

Discussion

According to the results of the present study, there was a positive and significant relationship between academic vitality and family emotional atmosphere. Consistent with our findings, Samari Safa et al. (2021) demonstrated the significant role of family emotional atmosphere in students' academic vitality (7). In addition, Derakhshan et al. (2021) found a positive and significant association between the family emotional atmosphere and academic vitality of elementary male and female students in Fars Province, Iran (22). Moreover, Arjmand and Kazemian Moghadam (2019) conducted a study on second-grade female high-school students, reporting a relationship between family emotional atmosphere and academic vitality (23). To explain this finding, it could be expressed that family emotional atmosphere

is one of the most important components that can affect children's behaviors. In order to perform the main duties of the family, which is to support individuality, and to simultaneously create a sense of belonging between family members as well as outside the family, the family must have an efficient and self-sufficient structure. This emotional safety, sense of value and being loved plays an important role in individuals' academic success and achievement. Evidence suggests that family emotional atmosphere facilitates students' learning, which improves their academic achievement (7). Moreover, the existence of insecure interpersonal relationships is indirectly related to poor academic achievement and negative information processing in stressful peer-related events. This situation predicts an increase in student incompatibility over a one-year period. Therefore, a

negative climate in family relationships leads to psychological problems, and academic failure, whereas a positive emotional atmosphere in family results in enthusiasm and vitality in students' mental and educational conditions (2).

According to the results of the current research, there was a positive significant association between academic vitality and flourishing. Consistent with our findings, Abdi and Zandipayam (2019) found a positive relationship between flourishing and academic vitality (6). In another study, Radmehr and Jahangiri (2018) pointed out the role of flourishing in students' academic success (8). Moreover, Hashemizade Nahi and Mahdiyan (2018) conducted a study on high-school students of Mashhad, Iran, reporting the significant effect of flourishing on the participants' academic vitality (9). Datu (2018) mentioned a significant relationship between flourishing and high academic success levels in high-school students of the Philippines (10). To explain these findings, it could be expressed that flourishing can be assessed at the same level of high-level needs of people, such as self-actualization. People with higher flourishing have higher academic achievement and participation, and those with a proper academic status report higher flourishing. Students with higher flourishing levels find meaning in doing their assignments, learn more personal skills, focus on their assignments and are more committed to the demands of the teachers regarding the classroom and finishing the assignments. In addition, they follow their desires with higher motivation and have more willingness to continue their education and find a suitable career (10). In fact, students with high flourishing levels have high levels of emotional well-being, more positive perceptions of their surrounding events, and a desire to have a purposeful life. In addition, they feel autonomy, external control power and the ability to choose their destiny, all of which increase their academic vitality and improve their academic performance (24). In other words, flourishing improves psychological health and increases

motivation. In addition, it leads to the formation of beliefs that increase attempts, the duration of attempts and flexibility in dealing with assignments, thereby increasing the chance of success (6).

According to the results of the current research, there was a positive significant relationship between academic vitality and self-compassion. Congruent with our findings, Mahbod and Khormaie (2019) indicated the significant role of self-compassion in predicting students' academic vitality (11). In addition, Yaghoobkhani et al. (2018) conducted a study on second-degree high-school students in Tehran, reporting a positive significant relationship between self-compassion and academic vitality (25). Furthermore, Neff and Costigan (2014) performed a study on social sciences students of Austria, mentioning the effect of self-compassion on the happiness and academic success of participants (26). To explain this issue, it could be expressed that students who have self-compassion, have little inclination to use destructive patterns of behavior such as "self-criticism" and experience emotional safety required to deal with situations even after experiencing failure due to being less exposed to damage caused by negative emotional experience (25). It seems that those who are kinder to themselves feel more social safety because they are less worried about other people and their judgments. These concerns can lead to negative emotions of shame and isolation and reduce the active interaction of people with the environment. On the contrary, the sense of social security that people experience in their relationships can affect their sense of self-compassion and receiving compassion from others. This means that the experience of social security gives people a sense of worth and a social bond that can, in turn, facilitate the growth of self-compassion. This feature can also affect students' communication and academic support behaviors, such as asking questions and communicating with the teacher and increase their active academic behaviors and academic vitality (27).

Conclusion

According to the results of the present study, family emotional atmosphere, flourishing and self-compassion predicted students' academic vitality. Overall, academic vitality is extremely important in the academic success of students. Therefore, considering the importance of academic vitality in the field of medical sciences in order to increase students' motivation to learn theory and practical courses and increase their talent and expertise in the field of medical sciences, it is suggested more research be carried out to identify factors affecting the promotion of academic vitality of medical students. Similar to other studies performed in the field of behavioral sciences, there were some limitations in the present study. For instance, it was a correlational research, which means that we were unable to determine the causal relations. It is recommended that qualitative methods be used in future studies to enrich the findings in the field.

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