Original Article

Students' academic well-being based on the perceived social support and cognitive flexibility: a model with mediating role of psychological hardiness

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Abstract

Background: This study aimed to design a model of students' academic well-being based on the role of perceived social support and cognitive flexibility mediated by psychological hardiness.

Methods: This study was correlational-descriptive research. The statistical sample studied in the present study was 334 people selected by stratified random sampling method among students of the Islamic Azad University of Kerman in the fiscal year of 2019-2020. The research instruments were the academic Well-being Questionnaire, Psychological Hardiness Questionnaire, Cognitive Flexibility Scale, and Perceived Social Support Scale. The pathway review process was used in Amos and SPSS software version 23 for the analysis of data.

Results: The results of path analysis in the final model showed that the model had a good fit with the data. Psychological hardiness had a significant mediating role in the relationship between cognitive flexibility, social support and academic wellbeing. Results from path analysis revealed that the model has an appropriate fit with the data and psychological hardiness had a vital intermediating function in the correlation concerning cognitive flexibility, social support, and academic well-being. Model fit indicators include: Normalized Chi-square (2.17), Fit-Goodness Index (0.912), Modified Fitness-Goodness Index (0.92), Normalized Fit Index (0.96), Incremental Fit Index (0.97), Tucker-Lewis Index (0.95), Fit Index Adaptive (0.96), root mean square estimation error (0.037) has been stating that the proposed model was appropriate.

Conclusion: Psychological toughness has an important mediating role between perceived social support and cognitive flexibility with academic well-being; Therefore, efforts to develop scientific protocols to improve students' academic well-being are suggested.

Keywords: Academic Wellbeing; Psychological Hardiness; Students; Social Support.

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Introduction

Humans face many challenges opportunities during their life, and an essential part of the challenges are related to adolescence and the education period (1, 2).

Also, the duties of university centers are to promote moral values among students to provide the flourishing students' abilities and provide the necessary conditions for the comprehensive development of their personality, emotions, behavior, and well-being (3).

Academic well-being plays a significant role in enhancing students' academic performance. Positive psychology argues that it includes components such as the skill of doing the school tasks and satisfaction. In the general sense, well-being is an attempt to achieve perfection to realize one's potential (4).

Psychological well-being has different sources of growth and development. Cognitive flexibility refers to thinking simultaneously about various aspects of a subject (5).

Mental suppleness is the capability to shift one's attention and thinking concerning dissimilar tasks due to needs and vicissitudes in rules (6).

The capability to think concurrently on two aspects of a subject, idea, object, or situation depends on cognitive flexibility, which means being aware of all possible options simultaneously and in any particular situation (7).

Previous studies have indicated that psychological flexibility is positively associated with well-being and negatively associated with depression, anxiety, and psychological distress. Perceived social support is another determinant of well-being in people. It means knowing that others like and care for a person, respecting and valuing them, and seeing them as part of emotional network connections and social commitments (8).

Perceived social support impacts physical, life satisfaction, mental, and various aspects of life quality and is known as an active mediator in managing stressful life circumstances (9).

Variables such as psychological flexibility, social support, and hardiness are significant predictors of academic well-being, but in this regard, how their internal relationship can improve is a question that has not been addressed in studies conducted. Thus, the current research explores the internal relationship between these variables to explain academic well-being well and answer whether the path model of the correlation between cognitive flexibility and perceived social support predicts intellectual well-being by mediating the responsibility of psychological hardiness.

Methods

The present study was applied research in terms of aim and correlational-descriptive, relational-explanatory type, based on the research method. All students of the Islamic Azad University of Kerman in the academic year of 2019-2020 were included in the study's statistical population. The statistical sample of the research was 334 people chosen by a suitable sampling technique.

Research Instruments

Dennis & Vander Wal, Cognitive Flexibility Scale**:** This scale is a short self-reporting tool that includes twenty questions and assesses the cognitive flexibility type needed in a person's success to defy and substitute dysfunctional opinions with supplementary effective ones. Its questions are scored on a 7-point Likert scale and attempt to measure three aspects of cognitive flexibility: A) Tendency to perceive difficult situations as manageable circumstances (perception of controllability), B) Being able to comprehend numerous alternate explanations for events in human life and behavior (perception of behavioral justification), C) the capability to construct numerous alternative solutions (perception of various options) (10).

Dennis & Vander Wal revealed that the present questionnaire has a suitable factor structure, concurrent cogency, and convergent cogency. Concurrent validity of this questionnaire with Beck Depression Inventory (II-BDI) was equal to -0.39, and its convergent validity with Martin and Robin Cognitive Flexibility Scale was 0.75. Using Cronbach's alpha method, these researchers obtained the reliability of the present questionnaire at 0.91, 0.84, and 0.91, respectively, for the whole scale,

controllability perception, and discernment of diverse choices. Using the test-retest method, they obtained its reliability at 0.81, 0.77, and 0.75, respectively, for the whole scale, controllability perception, and dissimilar decisions (10).

In Iran, Shareh et al. showed that the test-retest reliability coefficient at 0.71, 0.55, 0.72, and 0.57, respectively, for the whole scale, a subscale of perception of controllability, and subscale of perception of different options and perception of behavior justification. These researchers showed Cronbach's alpha coefficients of the whole scale, perception subscales of controllability, and perception subscale of dissimilar selections and behavior justification insight at 0.90, 0.87, 0.89, and 0.55, respectively. Also, this instrument showed good factor, convergent and concurrent validity in Iran (11).

Perceived Social Support Scale (MSPSS): This scale was developed by Zimet et al. to determine social support perceived by family, influential people in the person's life, and friends. This scale has 12 items, and the respondent expresses their perspective on a 7-point scale extending starting from strongly disagree (score 1) strongly agree (score 7) (1).

Salimi & Bozorgpour reported Cronbach's alpha coefficient of three dimensions of social support perceived from family, friends, and influential individuals at 89%, 86%, and 82%, respectively. Similarly, Cronbach's alpha of this tool was acquired at 0.75 in the present research (12).

Academic Well-being Questionnaire: Tuominen-Soini et al. developed the Academic Well-being Questionnaire by modeling the well-being psychology characteristics related to the school context. This questionnaire is a self-assessment that asks the respondent whether they agree or disagree with the 31 items about their perspective. The questionnaire encompassed the school dimensions value (9 items, answer based on a seven-point ranging from not at all true = 1 to entirely true = 7), school burnout (9 items, answer based on a seven-point ranging from disagreeing entirely = 1 strongly agree = 7), educational satisfaction (4 items, reply based on a five-point scale extending from not at all = 1 to very high = 5) and engrossment in school work (9 items, reply based on a 7-point scale extending from never = 1 to always = 7) (2).

Tuominen-Soini et al. determined the validity of the scale at a satisfactory level. Correspondingly, the scientist premeditated Cronbach's alpha for the 4 dimensions of school value, school burnout, educational satisfaction, and participation in school work at 0.64, 0.77, 91, and 0.94. Questions 1 to 8 measure school value, questions 9 to 18 measure school burnout, questions 19 to 22 measure educational satisfaction, and questions 23 to 31 quantify participation in school work (2).

Psychological Hardiness Questionnaire: This test was established by Kobasa et al. to measure hardiness. This test entails 20 questions with 4 choices of never, rarely, sometimes, most of the time (13).

The Cronbach's alpha of the Persian version for challenge, control, commitment, and the total score was obtained at 0.75, 0.82, 0.84, and 0.91, respectively. The content validity of the questionnaire was confirmed, and its reliability was reported to be 0.82 (14). The questionnaire reliability in this research was attained at 0.87 using Cronbach's alpha method.

Methods and Tools of Data Analysis

To test the research hypotheses and examine the model fit with the maximum likelihood estimation method, AMOS -23 and SPSS-23 software were used. The bootstrap method examined the indirect and mediating effects in the proposed model.

Results

Studying the respondents' age, gender, marital status, and education level: The

Table 1. Frequency distribution of age, gender, marital status and education level of respondents (n = 334)

Respondents	Year	Frequency	Percentage
Age	18-27	292	94.6
	28-37	35	4.5
	38-48	5	0.6
	Unspecified	2	0.3
	Total	334	100
Gender	Male	158	47.2
	Female	176	52.8
	Total	334	100
Marital status	Single	274	84.4
	Married	56	14.8
	Divorced	4	0.8
	Total	334	100
Education level	two-year diploma and BSc	206	55.8
	education level higher than BSc	128	44.2
	Total	334	100

overall response rate was 94.6% (334 out of 390 people). The respondents were mainly 18 and 27yrs old. 2 of them did not respond to the age question; they were listed in the table as unspecified. Women were almost 5 percent more than men. 84.4% were single, more than 40% had education levels higher than BSc Table 1.

Table 2 shows the descriptive indices of research variables. The results obtained from the index of mean, standard deviation, kurtosis, and skewness indicate the normal distribution of research variables. Also, the assumption of collinearity was examined through the variance index inflation, which confirmed the mentioned assumption in the study.

Amos software was used to examine the path model. The implementation of the initial model revealed that the model does not have a good fit with the data. The burnout component was abolished because of the low correspondence with educational well-being to achieve the desired fit.

Table 2. Descriptive statistics of academic wellbeing variable among respondents

Component	mean	SD	Kurtosis	Skewness
value of school	18.01	8.78	0.230	-0.234
School burnout	21.71	6.68	0.302	-0.690
Academic Satisfaction	12.15	5.84	0.304	-0.412
Involvement in school work	13.61	11.82	0.230	-0.234
Academic wellbeing	86.87	28.93	0.324	-0.272
Perception of different options	38.48	7.11	-0.386	-0.386
Perception of controllability	23.72	3.50	-0.104	-0.104
Perception of behavior justification	7.74	2.85	0.164	0.164
Cognitive flexibility	69.94	8.48	-0.047	-0.047
Support of family	15.83	3.66	-0.273	0.559
Support of friends	13.67	4.23	-0.407	-0.290
Support of others	15.41	3.76	-0.359	0.748
Perceived Social Support	44.91	9.26	-0.472	0.452
Commitment	23.82	6.50	-0.236	-0.301
Control	19.30	5.58	-0.304	-0.299
Challenge	11.33	3.58	-0.253	-0.514
Psychological hardiness	54.45	14.30	-0.327	-0.477

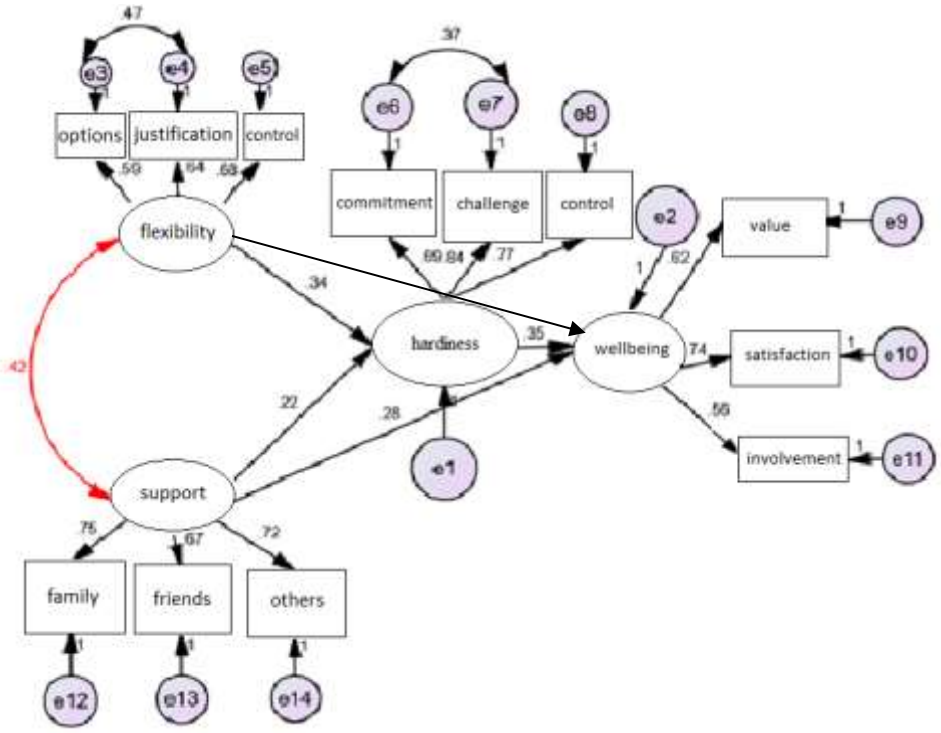

Figure 1. The final research model with the standard path coefficient

A fresh social support path to intellectual well-being was incorporated into the initial model. In the following steps, the social support components were drawn with the covariance proposal software. Figure 1 shows the closing study model with the standard path coefficient Table 3.

One of the main goals in examining structural models was to investigate the mediating role between the variables. In the model proposed in the present study, the psychological hardiness as a mediator between social support and hope and academic well-being was examined by the Bootstrap statistical method. Table 3 indications the outcomes of the bootstrap test to survey the mediating role.

As the results of Bootstrap show, the range obtained in Bootstrap for mediator paths does not include zero, which means that the role of the mediator is significant. In other words, it can be stated that Perceived social support and cognitive flexibility increase academic well-being through their effect on psychological hardiness.

Table 3. Final model fit indices

Index	Acceptable range	Reported value
CMIN/DF	Equal to or less than 3	2.17
GFI	Equal to or greater than 0.9	0.912
AGFI	Equal to or greater than 0.9	0.92
NFI	Equal to or greater than 0.9	0.96
IFI	Equal to or greater than 0.9	0.97
TLI	Equal to or greater than 0.9	0.95
CFI	Equal to or greater than 0.9	0.96
RMSEA	Equal to or less than 0.08	0.037

Table 4. Bootstrap test results to investigate the mediating role

Path	value	Bootstrap	bias	Standard error	Upper bound	Lower bound
Perceived Social support ➡ hardiness ➡ academic wellbeing	0.247	0.238	0.001	0.052	0.352	0.144
cognitive flexibility ➡ hardiness ➡ academic wellbeing	0.142	0.135	0.002	0.037	0.216	0.068

Discussion

The current research observed the function of cognitive flexibility and social support, and academic well-being mediated by psychological hardiness. In the final model, the results of a path analysis revealed that the model has an appropriate fitting with the data. The outcomes also indicated that psychological hardiness has a vital intermediating function in correlating cognitive flexibility, perceived social support, and academic well-being. A literature review suggests that the present research model or similar models regarding the internal relationship between the variables have not been studied. However, regarding confirming the inner relationship of variables, the present research results support previous studies, such as those conducted by Alipour (15).

Researchers believe that a higher understanding of social support is directly associated with involvement in health-related activities, including proper nutrition, exercise, relaxation, safety, and health promotion. These results suggest a positive effect of social support on (16) selecting a healthy lifestyle (17).

Few reviews have displayed those individuals who experience perceived social support experience more are more resilient to stressful situations, face challenges more effectively, and achieve more excellent psychological adaptation. Cieslak et al. believe that social support can act as a protective umbrella against harmful stress. People with social backing gain in-depth insights into their abilities and creativity to assess barriers and challenges (18).

Conclusion

Cognitive flexibility is part of the executive function and a higher level of perception, which includes the individual's ability to control the way of thinking. Executive function comprises different cognition aspects, including emotional stability, memory, emotion control, organization, and planning. Perceptual flexibility is strongly associated with these abilities, including emotion control, planning, and hardiness. Thus, when a person can control an issue's stimulating aspects to emphasize its more significant aspects, they are considered cognitively flexible. These people perform better in planning, organizing, and applying unique strategies for managing emotions and behavior, which improves academic achievement and satisfaction with academic performance, resulting in more well-being. In other words, cognitive flexibility leads to improved intellectual well-being through enhanced cognitive functions and better management and planning .Like any field research, the present research suffers some limitations, such as the self-reporting nature of data collection form and lack of control over intervening variables that affect the criterion variable (academic well-being). According to the present research outcomes, psychological hardiness has a considerable intermediary function in the correlation regarding perceived social support, cognitive flexibility, and academic well-being. Therefore, it is recommended to develop scientific protocols to improve students' academic well-being.

Author's contribution

Azam Vaziri Nasab and Alireza Manzari Tavakoli developed the study concept and design. Zahra Zeinaddiny Meymand

acquired the data. Mitra Kamyabi and Azam Vaziri Nasab analyzed and interpreted the data, and wrote the first draft of the manuscript. All authors contributed to the intellectual content, manuscript editing and read and approved the final manuscript.

Informed consent

Questionnaires were filled with the participants' satisfaction and written consent was obtained from the participants in this study.

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Conflict of interest

The authors declare that they have no conflict of interests.

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