Determining the causal relationship between academic engagement, academic buoyancy and self-worth with life satisfaction in students

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ABSTRACT

The present study aims at investigating the relationship between academic engagement, academic buoyancy and self-worth with life satisfaction of the high school boy students in Ahwaz. In this descriptive-correlational research, the study population was consisted of second grade high school boy students in the state high schools. A total of 400 students were selected as the study sample volume based on a multistage random method in districts two and three of Ahwaz. The instrument used in the present study was satisfaction with life scale (SWLS) by Diener et al (1985), contingencies of self-worth scale by Crocker et al (2003), academic buoyancy scale of Chari and Dehghanizadeh (2015) and academic engagement questionnaire by Schaufeli et al (2002). The proposed model was evaluated using path analysis method. To test the indirect relations, bootstrapping test according to Preacher and Hayes Computer instruction was utilized. Based on the present study's results, the proposed model gives a very good fit with the data. Generally, the results indicated that all of the direct paths are significant. In addition, the indirect paths were found also statistically significant hence confirmed.

Keywords: academic engagement, academic buoyancy, self-worth, life satisfaction.

Introduction

The important characteristic of the psychological health that a person has to have so that s/he can be considered as healthy is the feeling of wellbeing and life satisfaction. Life satisfaction is the result of an individual's satisfaction of various dimensions of life, including education. Satisfaction is an emotional state that comes about through reaching a goal. Generally, satisfaction is a pleasant feeling arising from well performance after the appraisal of the results of the done activities and works. Life satisfaction and pleasure are inter alia influenced by such factors as academic engagement, academic buoyancy and self-worth. Students who are satisfied with their academic life feel more control and experience more academic engagement, buoyancy and progress. Apart from influencing the individuals, life satisfaction is followed by important social outcomes. Thus, the present study has been arranged so as to determine the causal relationship between academic engagement, academic buoyancy and self-worth with life satisfaction and pleasure in the students. Academic engagement refers to the amount of energy a learner spends for performing his academic tasks as well as the extent to which effectiveness and efficiency are achieved. The students with academic engagement tend to be more concentrated on the target issues, show more commitment to the school's rules and regulations, avoid exhibiting inconsistent and unfavorable behaviors and perform better on the exams [1]. Academic engagement is usually applied as a motivational structure reflecting the learner's commitment to education [2].

Self-worth underlines the idea that individuals figure out based on their individual and social experience that how the life situations set the ground for their success or failure. According to the exisent life experiences, the more the individuals find their position, value and worth higher and better the more they will have their self-trust increased and, eventually, they would be equipped with a higher rate of self-confidence [3]. Self-worth alongside with life satisfaction is one of the indices of feeling happy and there are significant relationships between life satisfaction and self-worth [4].

Academic buoyancy is the concept that was proposed by Martin and Marsh (2008) as a method for investigating the constructive and positive reactions to various barriers experienced by the students during their course of education or in academic environment such as hgihly stressing exam pressures, getting low marks and others of the kind [5]. Academic buoyancy is a rather new psychological construct regarding the ground and essence of resilience in the work by Martin and Marsh (2009) who reason that resilience is limitedly used for the challenges and hardship that are specific to daily academic life of the majority of the students because it is especially related to the individuals' capaciteis for giving costructive responses to the academic challenges and main barriers [6].

Fooladi et al (2019) performed a study aiming at the investigation of the effectiveness of academic buoyancy instruction in academic success and academic self-efficacy of the students. Their findings indicated in the posttest and follow-up stages between the experimental and control groups that there is a significant difference between the academic success variables and academic self-efficacy of the girl students. In other words, academic buoyancy instruction during posttest and follow-up stages brings about a significant increae in the academic success and academic self-efficacy of the girl students. Mohammadi (2018) investigated the relationship between quality of life at school and perceptions of the classroom environment with academic buoyancy of the students in a study [7]. The findings indicated that there is a positive and significant relationship between quality of life at school and academic buoyancy. Rabuteg Šaric et al (2009) showed in a study that there is a positive and significant relationship between life satisfaction and self-worth [8]. Moreover, White et al (2008) stated that self-worth is positively and significantly associated with quality of life [9]. Goodwin et al (2008), as well, demonstrated in a study that there is a significant relationship between self-worth and quality of life [10].

Study Method:

The present study is a descriptive research of the path analysis correlation type. The study population included 27767 students who were busy schooling in the second grade of the state boy high schools in Ahwaz during 2018-2019 academic years. According to Morgan table, a sample volume equal to 372 students had to be selected using multistage randomize sampling. Considering the questionnaires' imperfect completion likelihood and/or absence of some of the study sample volume's participants, a total of 400 students were selected as the study sample volume in such a way that two districts were randomly selected from the four Education Organization's districts (district two and district four) at first; then, in each district, four schools were randomly selected and 50 students were randomly selected from amongst the students of each school. Next, the researcher attended the schools and reminded the sample volume students in a session of the necessity of honest cooperation in responding to the questionnaire and then explained the method of filling the questionnaires; the testees were also assured that their information will remain completely confidential. After the students responded to the questions, the questionnaires were collected and the extracted information was subjected to analysis. The study implementation stages were as follows: two districts out of the four education organization's districts in Ahwaz were randomly selected at first; the researcher attended the general education office in Ahwaz and presented the officials with the university issued letter of recommendation indicating the permission for performing the research and procured the permit for referring to the schools in the aforesaid districts.

To collect the data, use was made of satisfaction with life scale (SWLS), contingencies of self-worth scale and academic buoyancy and academic engagement scales. Satisfaction with life scale (SWLS) was prepared by Diener et al (1985) and it contains five questions measuring the cognitive indicators of the subjective wellbeing [11]. The testees show how much they are satisfied with their lives and how much they think their lives are close to an ideal life. Seven choices are available for answering these questions that are scored from one to seven (completely disagree to completely agree). Blais et al (1989) reported a Cronbach's alpha coefficient equal to 0.84 for this test and obtained a retest coefficient of 0.64 within a two-month interval for them [12]. Bayani et al (2008) investigated the reliability of this scale based on Cronbach's alpha method, split half method and retest within a one-month interval amongst the university students and reported values equal to 0.83, 0.75 and 0.69, respectively, for them [13].

Contingencies of self-worth scale was developed by Crocker et al (2003) and it includes 35 items and the respondents' answers are scored based on Likert's seven-point scale (from extremely disagree=1 to extremely agree=7) [3]. The subscales of this questionnaire are: internal aspect of self-worth (familial support and love, love for God, piety and virtuousness) and the external aspect of self-worth (scientific competency and qualification, competition and overtake, physique and appearance and others' confirmation). The English version of this scale features an identical and fixed reliability, validity and factorial structure for both of the genders as reported by Crocker et al (2003) [3]. Zaki (2013) showed in a study that all seven subscales of self-worth can be summarized in two factors, i.e [14]. the internal and external self-worth. There is a significant relationship between collective self-worth and self-esteem that signifies the validity of the study instrument. Furthermore, all of the scales' items can

be summarized in four factors signifying the construct validity. Self-worth scale features a very favorable validity and reliability and it can be also utilized in Iran for its match with the culture thereof. To assess the academic buoyancy, use was made of the academic buoyancy scale by Chari and Dehghanizadeh [15]. The scale has been constructed based on the English version of academic buoyancy scale of Martin and Marsh (2008); its Persian version has 9 items that are scored based on Likert's seven-point scale (from completely disagree=1 to completely agree=7). The minimum and maximum scores obtainable from this scale are 9 and 63, respectively. Martin and Marsh's scale was found reliable in terms of internal consistency and retest (Cronbach's alpha=0.70 and retest=0.65). In the study by Dehghanizadeh et al, Cronbach's alpha was utilized for calculating the reliability and the academic buoyancy scale's reliability coefficient was found equal to 0.77. In their study, the correlation of each item with the total score was computed for calculating the questionnaire's validity and values were found in a range between 0.54 and 0.64.

To assess the academic engagement, the 17-item questionnaire designed by Schaufeli et al (2002) was employed [16]. The questionnaire was translated by No'ami and Piria'ei (2013) and incorporates three areas of vigor (6 items), self-dedication (5 items) and absorption (6 items) [17]. The answers to all of the scale's items are scored from one (never) to six (always). Each testee is supposed to study the questionnaire's expressions and choose the closest answer to what s/he thinks following which the academic engagement of each of them can be specified based on the total score obtained from the academic engagement scale of Schaufeli et al (2002). The academic engagement scale's scores range from 17 to 102 for the university students; the higher the students' scores and the more they tend towards 102, then, the higher the individual's academic engagement and the lower the individual's score and tending towards 17, then, the lower his or her academic engagement. Schaufeli et al (2002) obtained a general reliability equal to 0.73 for the academic engagement [16]. The internal consistency rates of the questionnaires' aspects were as follow: 0.78 for vigor, 0.91 for dedication and 0.73 for absorption. In the study by No'ami and Piria'ei (2013), the reliability of the questionnaire was calculated equal to 0.89 for the overall questionnaire based on Cronbach's alpha method; the reliability rates were 0.81, 0.77 and 0.87 for vigor, dedication and absorption, respectively [17]. In addition, factor analysis was the method of choice for investigating the questionnaire's credibility and values equal to 0.99 and 0.06 were correspondingly attained for comparative fit index (CFI) and root mean square error of approximation (RMSEA); as it is seen, the values are acceptable for these indices.

To analyze the data, descriptive statistics (standard deviation, mean and so forth), correlation matrix and modeling presumptions were employed. Path analysis was also another method of interest for analyzing the data. To do so, analysis of moment structure software (AMOS) was utilized. Such fit indices as chi square, goodness of fit index (GFI), adjusted goodness of fit index (AGFI), incremental fit index (IFI), Tucker-Lewis fit index (TLI), comparative fit index (CFI), normed fit index (NFI) and root mean square error of approximation (RMSEA) were utilized for estimating the goodness of fit of the proposed pattern.

Study Findings:

Table (1) gives the mean, standard deviation and the minimum and maximum scores of the variables "academic engagement", "self-worth", "academic buoyancy" and "life satisfaction".

Table 1: descriptive findings of the study					
Variables	N	Mean	Standard deviation	Minimum score	Maximum score
Academic engagement	379	54.25	9.53	21.00	96.00
Self-worth	379	135.97	19.76	48.00	245.00
Academic buoyancy	379	39.68	7.69	16.00	58.00
Life satisfaction	379	25.44	5.43	14.00	35.00

The correlation coefficients between the study variables have been given in table (2).

Table 2: inter-variable correlation coefficients				
	Academic engagement	Self-worth	Academic buoyancy	Life satisfaction
Academic engagement	0.34 P≤0.01			
Academic buoyancy	0.30 P≤0.01	0.35 P≤0.01		
Life satisfaction	0.38 P≤0.01	0.49 P≤0.01	0.47 P≤0.01	

In the present study, in order to investigate the causal relationship between academic engagement, academic buoyancy and self-worth with life satisfaction and pleasure in the students, a model was proposed using AMOS software and the path analysis method was carried out for this model. The findings related to model include the proposed model's estimation results. Two steps were taken for estimating the proposed model. In the first step, the parameters (standard path coefficients) were estimated; in the second step, the proposed model's fit indices were investigated. Diagram (1) illustrates the results of the proposed model. As it is seen in diagram (1), the path from academic engagement to life satisfaction (0.41), the path from self-worth to life satisfaction (0.51) and the path from academic buoyancy to life satisfaction (0.37) have been statistically significant.
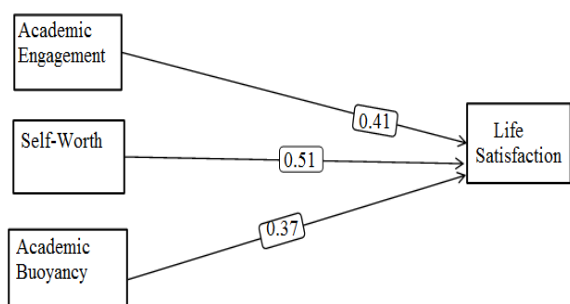
Diagram 1: the proposed model's estimation

Table (3) gives the paths and standard coefficients in the final pattern of the present study's proposed model. As it is observed from the values inserted in table (3), all of the direct paths are significant in P<0.001 and P<0.005 levels.

Table 3: paths and standard coefficients of the study variables

Paths		Standard estimation	Nonstandard estimation	Standard error	Critical ratio	Significance value
Academic engagement ⇨	Life satisfaction	0.41	0.54	0.040	2.238	0.025
Self-worth ⇨	Life satisfaction	0.51	0.71	0.022	10.884	0.001
Academic buoyancy ⇨	Life satisfaction	0.37	0.44	0.028	3.080	0.003

Table (4) presents the fit indices of the proposed model.

Table 4: fit indices

Index	Amount
Chi square goodness of fit	34.021
Degree of freedom (df)	1
Significance level	P=0.129
Goodness of fit index (GFI)	0.996
Adjusted goodness of fit index (AGFI)	0.965
Incremental fit index (IFI)	0.997
Comparative fit index (CFI)	0.997
Tucker-Lewis index (TLI)	0.971
Root mean square error of approximation (RMSEA)	0.053

It was shown in testing the proposed model's goodness of fit that the chi square goodness of fit index is equal to 34.021 that is not in a P=0.129 significance level and this is indicative of the model's goodness of fit. Additionally, as it is observed in table (4-4), the other goodness of fit indices of the proposed model are also favorable, including goodness of fit index (GFI) that was found equal to 0.996 or the adjusted goodness of fit index (AGFI) that was obtained equal to 0.965 or the incremental fit index (IFI) that was found equal to 0.997 as well as the comparative fit index (CFI) that was calculated equal to 0.997

and Tucker-Lewis index (TLI) that was obtained equal to 0.971 or, finally, the root mean square error of approximation (RMSEA) that was found equal to 0.059. Amongst the goodness of fit indices, RMSEA is one of the most important ones for a model's evaluation and, as it can be seen, a value equal to 0.053 was found for the root mean square error of approximation in the evaluation of the proposed model and this is suggestive of the idea that the proposed model features a good fit.

To investigate the indirect relationships in the proposed method, bootstrapping based on the computer instruction by Preacher and Hayes (2008) was employed. The results of bootstrapping for the indirect intermediary paths have been summarized in table (5).

Table 5: bootstrapping results in investigating the indirect and intermediary paths

Path		Boot	Standard error	Upper limit	Lower limit	Significance level
Academic engagement ⇨	Life satisfaction	0.6950	0.0893	0.8576	0.4961	0.00001
Academic buoyancy ⇨	Life satisfaction	0.1192	0.0341	0.1894	0.0578	0.0003
Self-worth ⇨	Life satisfaction	0.0577	0.0204	0.0979	0.0125	0.0013

Discussion and Conclusion:

In the present study, the causal relationship between academic engagement, academic buoyancy and self-worth with life satisfaction was investigated in the students. The study was conducted based on a field study method. To assess the information, use was made of standard scales. The results indicated the positive and significant relationship between the academic engagement and life satisfaction. This finding is consistent with the results obtained in the studies by Zahed Bablan et al (2019) and Martin and Lim (2010) [18, 19]. It can be stated in the elaboration of this finding that the students with academic engagement tend to pay more attention to the learning target's issues and subjects, show more commitment to the school's rules and regulations, avoid unfavorable and inconsistent behaviors and exhibit better performance in the exams [1]. In the end, these students with high academic engagement consider educational activities as factors for the satisfaction of their needs and find the instructional and learning goals aligned with their own personal objectives; resultantly, they feel more life satisfaction. This finding is in compliance with the results obtained in a study by Mohammadi (2018) [7]. It can be stated in elucidating this finding that the academic buoyancy refers to positive, constructive and adaptive response to the various challenges and academic barriers (like low marks, stress levels, reduction of academic motivation and so forth) and buoyancy is amongst the subjective wellbeing indicators and, when an individual does an assignment in a spontaneous manner, s/he would not only feels no boredom and frustration but s/he also feels energy and vigor and such a feeling causes an increase in the efforts and perseverance in academic grounds

and eventually brings about an increase in academic achievement and life satisfaction. This finding can also be clarified based on the theory posited by Martin and Marsh (2008) as follows: during schooling period, there are many academic challenges that need attention, contemplation and thinking and these challenges are the stable truth of the students' academic life and the students with academic buoyancy show greater resistance for resolving these challenges, spend a greater deal of attention and contemplation and are more likely to succeed; these factors cause an increase in their life satisfaction. The last point in explaining this finding based on the notion put forth by Mika'eili et al (2013) is that lack of interest, tiredness and academic burnout (as opposite points to academic buoyancy) are reversely associated with academic performance of the students [20]. In addition, academic buoyancy reflects academic resiliency within the framework of positivist psychology. Hence, academic buoyancy influences the successful and fruitful learning and it seminally causes the fruitfulness of the competencies, abilities and scientific progress and, then, elevates the academic success hence the life satisfaction.

The results of the current research paper were reflective of the positive and significant relationship between self-worth and life satisfaction and this finding is in accordance to what has been found in the studies by Rabuteg Šaric et al (2009), White et al (2008) and Goodwin et al (2008) [8-10]. In line with this, it can be stated that self-worth underlines the idea that the individuals found out based on their own individual and social experiences that how life situations pave the way for their success or failure. According to the life experiences, the better the individuals know their position, value and worth, then, the more they can trust on themselves and, eventually, elevate their self-confidence. Self-appraisal and valuing one's own self are amongst the important examples of self-worth that causes the formation of self-esteem. In fact, self-worth is a potential motivational force that reveals itself in self-esteem [3]. Self-worth alongside with life satisfaction is considered as one of the indices of feeling happy and there are significant relationships between life satisfaction and self-worth [4]. Based thereon, it can be inferred that the individuals with higher self-worth and self-esteem experience higher satisfaction of life.

The individuals with academic engagement tend to be more focused on the learning's target issues and subjects, avoid behaving unfavorably and inconsistently and perform better in the exams. The opposite point of academic engagement is non-engagement or indifference that points to a state of making no efforts and having no perseverance in getting things done and it is expressed in the form of no tension and paying no attention to the homework and getting involved in the routine life [1]. Martin and Marsh (2008) reason that resilience specifically refers to the individuals' capacities for constructive response to the primary academic challenges and barriers; its application has been restricted to the challenges and hardship that are specific to the daily academic life of the majority of the students so the better the individual know their position, value and worth,

then, the more they will trust in their own selves and, finally, they will enjoy higher self-worth.

Therefore, the present study is an effort for investigating the causal relationships between academic engagement, academic buoyancy and self-worth with life satisfaction in students. The study findings are suggestive of the existence of a positive and significant relationship between academic engagement, academic buoyancy and self-worth with life satisfaction.

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