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Academic Burnout and Achievement among Agricultural Students

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Abstract

The aim of this study was to examine the effect of academic burnout components on academic achievement among agricultural students at Ramin Agriculture and Natural Resources University (RANRU), Khuzestan province, Iran. The statistical population consisted of all senior agricultural students at RANRU (N=390) of whom 200 were selected by the stratified random sampling method (n=200). The main research instrument was a questionnaire whose validity was confirmed by a panel of experts, average variance extracted, and discriminant validity, and its reliability was established by Cronbach's alpha coefficient and composite reliability. Data were analyzed by SPSSWin23 and SmartPLS3 software. Results of structural equation modeling revealed that academic burnout components (emotional exhaustion, academic cynicism, and academic inefficacy) had significant and negative effects on academic achievement among agricultural students at RANRU. The study may be useful to teachers, counselors, managers, policy-makers, and parents who may be able to assist students to reduce burnout. It is recommended that programs be developed to create awareness and encourage students in order to reduce academic burnout.

Keywords:

Academic achievement, academic burnout, agricultural education

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INTRODUCTION

One of the most important economic sectors in Iran is agriculture as it supplies the country's food and comprises a considerably high percentage of production and employment (Rezvanfar et al., 2014). Agricultural students are an essential part of institutes so that the progress of institutes depends on them; similarly, they have a main contribution to the prosperity of the country (Rana, 2016). Therefore, agricultural colleges in Iran play an important role because they develop human capital by preparing students for careers in the food, production, and natural resources industries (Zarafshani et al., 2008).

Considering how students are chosen for higher education in Iran, universities will finally have students characterized by non-uniformity in many aspects such as knowledge level, capability, educational background, and potential educational achievement (Shiri & Naderi, 2015). The admission of some of these students into Iranian universities makes their academic achievement a matter of great concern which, in turn, leads to the drop in educational quality (Hedjazi & Omid, 2008), while there is strong evidence that the cognitive skills of the population – which is a consequence of the quality of education – are related to individual earnings, the distribution of income, and economic growth (Hanushek et al., 2007), and a key function of universities is to supply human resources at higher levels who can fulfill the society needs (Hejazi, 2006). Hence, to improve education it is necessary to address students' academic achievement as one of the components of the educational system and explore the factors affecting it in order to suggest required mechanisms for its improvement (Abadi & Zamani, 2010). Academic achievement refers to students' academic performance at school. Students' GPA (Grade Point Average) scores are used to measure academic achievement (Brown et al., 1989; Garton et al., 2002). The same approach has also been utilized in many previous studies (Butler, 2007; Garton et al., 2002; Hedjazi & Omid, 2008;

Pishghadam & Zabihi, 2011; Shiri & Naderi, 2015).

Several factors may affect the academic performance of students. Some of these factors improve academic performance and the others have detrimental effects on this academic construction. One of the most recently studied factors affecting students' academic performance is academic burnout (Charkhabi, Azizi Abarghuei, & Hayati, 2013). The concept of burnout was first used by Freudenberg (1974) to define healthcare professionals' experience of intense tiredness and frustration that caused them to quit the profession (Kaçmaz, 2005). Fradelos et al. (2014) defined burnout as a physical, emotional, and psychological disorder and illness that can occur when work is psychologically challenging and requires continuing efforts, participation, and contribution from a particular person.

Traditionally, academic burnout is defined as a three-dimensional syndrome including emotional exhaustion, depersonalization, and reduced personal accomplishment (Maslach & Jackson, 1981). The emotional exhaustion dimension is described as feelings of busyness, tiredness, exhaustion, and overload. The depersonalization dimension refers to negative, rigid, and/or unemotional attitudes and behaviors of a person against others in the interaction (Kaçmaz, 2005). The third dimension, poor personal accomplishment or low personal efficacy, relates to negative personal evaluation of oneself as unsuccessful, insufficient, and powerless when dealing with problems.

Burnout among college students refers to tiredness resulting from academic demands (emotional exhaustion), having a pessimistic sense and lack of interest in academic tasks (cynicism), and feeling of incompetency as a student (inefficacy) (Zhang et al. 2007). Evidence indicates that people with academic burnout may experience symptoms like lack of interest in academic issues, inability to attend academic classes continuously, disaffiliation in class activities, sense of

meaninglessness in academic activities, and incapability in the acquisition of academic issues (Yang & Farn, 2005).

Nowadays, students are suffering from many problems in their institutes, and due to the burden of work and technological changes they are getting stressed and facing burnout syndrome (Rana, 2016). Performance is reduced when students face burnout syndrome. In the last few decades, many studies have been conducted on this phenomenon a burnout disorder is becoming an important societal dilemma, so interests in this issue are increasing growingly (Campos, Jordani, Zucoloto, Bonafé, & Maroco, 2013). Academic burnout impairs productivity and creativity and is related to low goal progress, which subsequently retards studies and causes low educational aspirations (Winga, Agak, & Ayere, 2016). Tsigilis et al. (2011) state that people who are facing burnout problems are more likely to engage in absenteeism, have less self-confidence, have lower satisfaction with their work, and have turnover intentions. So, burnout syndrome has become a critical issue for students and institutes because it directly affects the well-being of students and reduces their performance.

In support of this claim, the social cognitive career theory (Lent, Brown, & Hackett, 1994), explains the processes, through which people develop educational and vocational interests, make academic and occupational choices, and gain success and stability in their educational and work life. According to this theory, one important factor that can affect academic performance and achievement is academic burnout. As academic programs become more challenging and competitive, students develop higher stress and strain (i.e. burnout) while enrolled in their programs. In addition, unfairness that students perceive in their lecturers/professors also elevates the level of burnout in the academic environment (Uludag & Yaratani, 2013). This regard, Yang (2004) emphasizes that the manifestations of burnout are similar

to those experienced by service professionals. As seen in the studies cited, burnout is not only a variable affecting interpersonal processes but also a variable that negatively affects students during their academic life. The students' burnout may lead to their absence from classes, poor motivation for completing coursework, and dropping out of school (Yang, 2004). Consequently, the academic performance of students is deleteriously affected.

There are many studies on burnout and performance but many of them have some gaps. So, the present study particularly discusses the effects of students' burnout on their achievement, which has been neglected in previous studies and some studies have just discussed the causes and reasons for students' burnout without addressing its relationship with their academic performance. Similarly, many researchers have ignored the issue of students' burnout and just focused on teachers' burnout and performance, so this paper tries to fill the gap. Therefore, this study examines the effects of academic burnout components on academic achievement among agricultural students at Ramin Agriculture and Natural Resources University (RANRU), Khuzestan Province, Iran. This paper is useful for the academic sector of Iran in making their teaching environment healthy, comfortable, and more responsive for their students to have higher efficiency and motivation levels, and consequently higher performance.

The burnout experienced among students and their unwillingness to complete school-work may negatively affect their academic performance and achievement. Indeed, research on the relationship between students' burnout level and their academic achievement has reported that students' burnout has a negative effect on their academic achievement (Caballero Domínguez et al., 2007; Jacobs & Dodd, 2003; Schaufeli et al., 2002; Yang, 2004).

Rostami et al. (2013) report that the students who experience burnout related to their

studies are less concentrated and give small attention to their education, so they are less likely to be successful in their studies as compared to their class fellows who do not face burnout and are mentally and psychologically fit. Charkhabi et al. (2013) indicated that all relationships between academic burnout and its components with self-efficacy were statistically significant. Furthermore, academic burnout and all its components had significant correlations with the quality of learning experience. However, the relationship between resources and emotional exhaustion and the professor-student relationship with academic inefficacy were not significant. Zhang et al. (2013) researched academic burnout and motivation and found that when academic burnout increased, motivation level decreased in students.

Uludag and Yaratani (2013) revealed that academic burnout had a negative association with students' academic achievement. Additionally, burnout was treated as a negative predictor of academic achievement. Salmela-Aro et al. (2009) also found a negative relationship between students' GPA (achievement) and academic burnout. Seif et al. (2016) indicated that academic burnout had significant and negative relationships with mastery achievement goals, performance approach, and academic self-efficacy. Ocal and Tek (2015) suggested that there was a negative moderate correlation between ex-

haustion and GPA, a moderate negative correlation between cynicism and GPA, and a small positive correlation between inefficacy and GPA. Rana (2016) also revealed that emotional exhaustion and cynicism were related to students' performance negatively and significantly. But, an insignificant and negative relationship was found between academic inefficacy and the performance of students. The findings suggest that an increase in students' burnout harms their learning and performance. Erdinç et al. (2014) showed that academic achievement was negatively associated with three dimensions of burnout. The results also confirmed that cynicism fully mediated the effect of emotional exhaustion on reduced academic efficacy and academic achievement. Accordingly, based on the above empirical studies, the following main hypotheses and research model were shaped (Figure 1):

H1: There is a significant negative relationship between emotional exhaustion and academic achievement among agricultural students.

H2: There is a significant negative relationship between academic cynicism and academic achievement among agricultural students.

H3: There is a significant negative relationship between academic inefficacy and academic achievement among agricultural students.

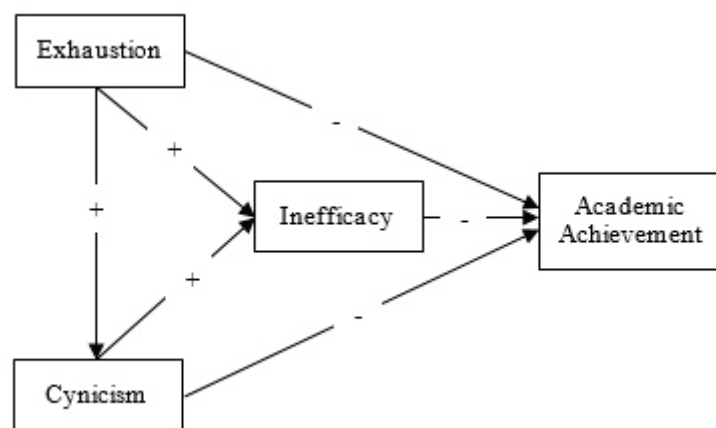


Figure 1. Conceptual Research Model

METHODOLOGY

This study was quantitative in nature and applied in purpose, which was carried out using a descriptive-correlational research design. The statistical population consisted of all senior agricultural students at RANRU, Khuzestan Province, Iran (N=390). Using Krejcie and Morgan (1970)'s sampling table, 200 of senior undergraduate students were selected by the stratified random sampling method from different fields (n= 200). The main research instrument was a questionnaire consisted of three sections: 1) The burnout inventory-student survey (MBSS); 2) academic achievement; and 3) demographics information (gender and age). The MBSS scale, designed to measure burnout levels of students, contains 15 items that evaluate the dimensions of emotional exhaustion (5 items), academic cynicism (4 items), and academic inefficacy (6 items) (Bresó et al., 2007). Students specify their agreement on each item, scored on a 5-point Likert response scale from 1 (very low) to 5 (very high). High scores on exhaustion and cynicism dimensions and low perception of academic efficacy are indexes of burnout (Schaufeli et al., 2002). GPA represented the academic achievement of the students in the semester prior to completing the questionnaire. The validity of the MBSS scale was confirmed by a panel of experts, Average Variance Extracted (AVE), and discriminant validity, and its reliability was confirmed by Cronbach's Alpha coefficient and composite reliability (Table 2). Data were analyzed by SPSS version 23 and SmartPLS3 software in two parts of descriptive and inferential statistics. PLS analysis provides results for both the structural model (hypothesized relation-

ships) and the measurement model (reliability and validity of the indicators). According to Hair, Hult, Ringle, and Sarstedt (2014), SRMR (Root Mean Square Residual), D_LS (Squared Euclidean Distance) and D_G (Geodesic Distance), NFI (Normed Fit Index), and RMS_Theta (Root Mean Squared Residual Covariance Matrix) indexes are capable of identifying a range of model misspecifications (Dijkstra & Henseler, 2015; Henseler et al., 2014). The first condition for convergent validity is that the standardized factor loadings should all be significant (t-value> 1.96) with a value of more than 0.50 (Janssens et al. 2009). For the composite or construct reliability to be adequate, a value of CR= 0.70 or higher is recommended (Thorndike, 1995). According to Fornell and Larcker (1981), if the square root of the AVE estimate for each construct is greater than the correlation between that and all of the other constructs in the model, discriminant validity is then demonstrated.

RESULTS

According to the results, agricultural students were, on average, 23.40 years old with a standard deviation of 2.27. Among the respondents, 124 individuals (62%) were female and 76 (38%) were male.

Structural Equation Modeling (SEM) was used to test the effects of the academic burnout components on the prediction of academic achievement among agricultural students at RANRU. According to Hair et al. (2014), it is appropriate to adopt a two-step approach for SEM: first, the assessment of the measurement model and second, the assessment of the structural model.

Table 1

Goodness of Fit Indices for the Measurement Model

Fit indices	SRMR	D_LS	D_G	NFI	Rms_Theta
Value in study	0.06	0.51	0.41	0.87	0.10
Suggest value	<0.10	>0.05	>0.05	>0.80	<0.12

The results of the confirmatory factor analysis showed the initial measurement model to provide an acceptable fit for the data (Table 1). Thus, based on Table 1, the hypothesized measurement model with three factors was found to be suitable for the SEM.

Convergent validity: Results in Table 2 shows the t-value for the factor loadings to all constructs exceeds 8.61 ($p < 0.01$) and the standardized factor loadings have values greater than 0.73. This shows good convergent validity for the constructs (emotional exhaustion, academic cynicism, and academic inefficacy).

Composite reliability (CR): As shown in Table 2, all the constructs had composite reliabilities of greater than the recommended 0.70. The results also show that the AVE is estimated for all the constructs to be above or close to the recommended threshold of 0.50 (Fornell & Larcker, 1981). This shows good composite or construct reliability for the constructs (emotional exhaustion, academic cynicism, and academic inefficacy) in this study.

Discriminant validity: As presented in Table 3, the square root of each AVE is greater than its correlations with the other constructs. This means that the indicators have more in common with the construct that they are associated with the other constructs (Fornell & Larcker, 1981). Thus, discriminant validity has been demonstrated for the constructs (emotional exhaustion, academic cynicism, and academic inefficacy) in the measurement model.

Once a satisfactory measurement model was obtained, the second step, i.e SEM, was applied to test the structural model. The structural model includes the hypothesized relationships among constructs (emotional exhaustion, academic cynicism, academic inefficacy, and academic achievement) in the research hypotheses (H1- H3). Having assessed the fit indices for the measurement model, the estimated coefficients of the causal relationships among constructs were examined (Figure 2).

Table 2
The Results of the Measurement Model Assessment

Constructs	Indictors	Standardized factor loading	t-value	α	CR	AVE
Emotional Exhaustion (EE)	EE1	0.92	73.57**	0.94	0.96	0.82
	EE2	0.93	83.46**			
	EE3	0.93	86.17**			
	EE4	0.87	45.68**			
	EE5	0.88	43.97**			
Academic Cynicism (AC)	AC1	0.93	55.90**	0.93	0.95	0.83
	AC2	0.90	41.44**			
	AC3	0.92	52.39**			
	AC4	0.90	49.28**			
Academic Inefficacy (AI)	AI1	0.80	26.67**	0.87	0.90	0.61
	AI2	0.84	29.42**			
	AI3	0.77	20.70**			
	AI4	0.74	15.89**			
	AI5	0.80	24.88**			
	AI6	0.73	15.21**			

** Factor loading is significant at the $p < 0.01$ level

Table 3

Means, SD and correlations with square roots of the AVE

Constructs	Mean	SD	1	2	3	4
1- Academic Achievement	16.35	1.54	1.00 ^a			
2- Academic Cynicism (AC)	2.46	1.12	-0.63**	0.91 ^a		
3- Emotional Exhaustion (EE)	3.05	1.11	-0.73**	0.47**	0.90 ^a	
4- Academic Inefficacy (AI)	2.89	0.95	-0.48**	0.38**	0.33**	0.78 ^a

** $p < 0.01$ ^a The square roots of AVE estimates

Table 4

Direct, indirect, and total effects on academic achievement

Determinant	Outcome	Direct effect	Indirect effect	Total effect	R ²
Exhaustion	Academic Achievement	-0.52**	-0.21	-0.73**	0.67
Cynicism		-0.32**	-0.05**	-0.37**	
Inefficacy		-0.19**	-	-0.19**	

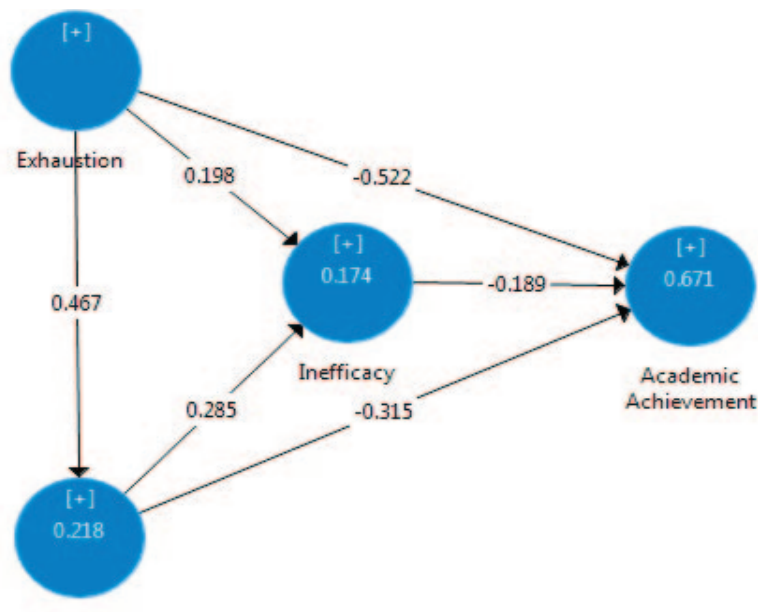
** $p < 0.01$ level

Figure 2. The Path Model with Standardized Factor Loadings

Based on Table 4, it can be seen that the negative effect of emotional exhaustion in the prediction of academic achievement among agricultural students at RANRU is supported (H1: $\beta = -0.73$, $p < 0.01$), which corresponds to the first research hypothesis. The second hy-

pothesis is also supported; that is, the academic cynicism has a negative effect on the prediction of academic achievement among agricultural students at RANRU (H2: $\beta = -0.37$, $p < 0.01$). Finally, it can be seen that the negative effect of academic inefficacy in the pre-

diction of academic achievement among the studied agricultural students is supported ($H1: \beta = -0.19, p < 0.01$), which corresponds to the third research hypothesis.

Our findings showed that R^2 for academic achievement was 0.67 so that three constructs (emotional exhaustion, academic cynicism, and academic inefficacy) account for 67 percent of the variance in the academic achievement among the studied agricultural students.

DISCUSSION AND CONCLUSION

The study aimed to identify and examine the effect of academic burnout components (cynicism, emotional exhaustion, and academic inefficacy) on academic achievement among agricultural students at RANRU in Khuzestan Province, Iran.

The association of cynicism and emotional exhaustion with academic achievement is negative, strong, and significant. Also, the relationship between academic inefficacy and academic achievement is negative, weak, and significant. In this regard, the conservation of resources theory also supports the notion of negative relationships between performance and stress (i.e. burnout). When individuals feel stressed, their performance level tends to decrease (Hobfoll, 1989). This is also confirmed by previous research findings and theoretical explanations (Charkhabi et al., 2013; Erdinç et al., 2014; Freudenberger, 1974; Ocal & Tek, 2015; Rana, 2016; Rostami et al., 2013; Salmela-Aro et al., 2009; Seif et al., 2016; Uludag & Yaratani, 2013).

Emotional exhaustion refers to feeling busy, tired, overloaded, and burned out to the detriment of academic duties and responsibilities (Kaçmaz, 2005). Thus, individuals who consider themselves as lacking in resources and energy might be expected to manifest withdrawal, indifference, and apathy toward academic responsibilities. In line with this expectation, our analysis showed that higher cynicism levels were related to lower academic achievement and reduced academic efficacy levels. Schaufeli et al. (2002) defined cynicism as students' indifference

and apathy towards schoolwork, duties, and responsibilities. Thus, indifferent individuals who display apathy toward schoolwork will be likely to have lower motivation and thus will report lower academic achievement. Similarly, individuals who feel insufficient in dealing with academic-processes problems and who have lower academic achievement may be expected to consider themselves less capable, less successful, and more powerless.

So, we can say that academic burnout components are negatively correlated with academic achievement among agricultural students, as higher academic burnout among students has serious consequences and impairs the academic performance of agricultural students because when students are mentally unhealthy, they exhibit lower performance. It can also be concluded that senior undergraduate students at RANRU are mentally unhealthy due to the pressure for assignments, presentations, projects, etc. This pressure leads to frustration so that the students become emotionally exhausted and inefficient which lowers their performance. Once students become emotionally exhausted, they behave negatively and show negative attitudes towards their institutes, tasks, and projects. This negative attitude leads to dissatisfied performance and bad grades. From the analysis, we can clearly say that agricultural students at RANRU are more cynic and emotionally exhausted that lowers their performance and academic grades.

It is recommended that the education authorities dedicate a budget to research activities and encourage leaders and schoolteachers to conduct surveys in this field. According to the results of this survey, the followings are recommended to the teachers, managers, planners, and policy-makers:

Since the students' academic burnout is believed to be an issue in the institutional environments, it is recommended that the consultants and school teachers identify the educational pressures and their outcomes which lead to an increase in the students' ac-

ademic burnout to be able to take the necessary actions when encountering the symptoms of the academic burnout in students.

It is recommended that the authors of the school books prepare material, activities, and assignments of each book so as to raise students' eagerness and passion towards education and meanwhile foster their philosophical mindedness.

Respecting the importance of fostering the philosophical mindedness of the students, it is recommended that teachers and professors are selected that have philosophical mindedness so that they can teach the right scientific contemplate to their students.

To avoid emotional exhaustion, academic apathy, and academic incompetency in students, teachers should do their best to give suitable assignments according to the individual differences between students according to the students' abilities and talents. They should apply active teaching methods that increase students' participation in the teaching learning process.

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