
Factors associated with happiness among college students: do academic self-efficacy and stress predict happiness?

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Abstract: The aim of this study was to investigate the associations between academic self-efficacy, academic stress and happiness among college students. In 2017, we recruited 290 students at an Iranian medical science university to participate in the study. The validated tools were used to collect data. Based on our findings, the significant determinants of happiness were gender (OR = 1.72 95% CI 1.01 – 2.93), the students' interest in their college major (OR = 2.17 95% CI 1.051 – 4.46), the first year of college (OR = 1.23 95% CI 1.12 – 1.35), high academic self-efficacy (OR = 2.20 95% CI 1.56, 2.18), and low academic stress (OR = 1.98 95% CI 1.02 - 3.82). Our findings highlighted the role of 'academic self-efficacy', 'academic stress', and 'interest in college' in predicting happiness among university students. The university healthcare providers should take into account these factors while designing mental health promotion programs aiming at happiness promotion among university students.

Keywords: happiness; academic self-efficacy; academic self-stress; students; Iran.

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1 Introduction

Happiness is the experience of pleasure (positive emotion) and life satisfaction, as well as the lack of depression and anxiety (negative emotions) (Argyle, 2013). The World Health Organization (WHO) has introduced happiness as a critical health factor in individuals' daily life (Cohn et al., 2009). Happiness is a factor contributed to subjective well-being (Raibley, 2012; Veenhoven, 2010). It is also a personality characteristic, which can protect health and can play a major role in achieving success in the future (Lyubomirsky et al., 2005).

Happiness is a multi-dimensional concept, which may be differently perceived by different individuals (Vaingankar et al., 2012). It can be affected by social norms (like marriage), social role (like full time employment and parenthood), social support, and demographic characteristics (Hori and Kamo, 2017). Compared to unhappy people, happy individuals are more energetic, healthier, more creative, more successful, and more sociable. Accordingly, when a student enjoys from happiness during the period of college education, he/she may be more successful in almost all educational aspects and may even be happier in his/her own job after graduation (Hoggard, 2005; Lyubomirsky et al., 2005). In addition, a number of studies have found that satisfaction with one's own major

during college education can be a determinant of happiness among students (Abolmaali et al., 2014; Purtaghi and Pakpour, 2014).

Previous studies conducted on college students have shown a negative relationship between perceived academic stress and academic self-efficacy and also a positive relationship between academic self-efficacy and happiness during the period of college education (Schiffrin and Nelson, 2010; Sharp and Pritchard, 2006). Academic self-efficacy, as a factor that provides students with life satisfaction during their period of college education, may be negatively affected by academic stress in this period of life (Denovan and Macaskill, 2017).

Based on previous studies, people may feel happier when they have a healthy diet, good economic status and a high level of education, self-esteem, and physical activity, and when they are married (Gray et al., 2013; Kye and Park, 2014). On the other hand, several factors such as older age, high level of income, body mass index, and uncontrolled stress are reported to affect happiness, negatively (Heizomi et al., 2015; Robertson et al., 2015). In a previous study, the highest level of happiness was reported to be achieved within the range of 20 to 29 years of age and also above 50 years of age (Blanchflower and Oswald, 2008). According to some studies, there is no significant difference in the level of happiness by gender (Hunagund and Hangal, 2014). Some other studies, however, have reported higher levels of happiness among females, rather than males (Aldous and Ganey, 1999).

Although several current studies have investigated the level of happiness and its related factors among high school and college students (Hori and Kamo, 2017), the association of academic self-efficacy, perceived academic stress and happiness among college students are not well understood. In the present study, we hypothesised that academic self-efficacy and perceived academic stress predict happiness among college students in Sarab County, Iran. The following questions guided the study:

- 1 What is the level of happiness among college students in Sarab County, Iran?
- 2 What socio-demographic characteristics may predict happiness among college students?
- 3 May academic self-efficacy and academic stress predict happiness among college students in Sarab County, Iran?

2 Method

We conducted this cross-sectional study among 290 college students of a medical sciences university, Sarab County, Iran, from March to April 2016. Through census, we invited all college students in the university to participate in the study. The students provided us with anonymous information on their demographic and educational status. Among 350 college students from four majors (nursing, medical emergency, public health and laboratory sciences), 290 (82.8%) returned the questionnaire. Like other Iranian medical sciences universities, the number of female college students in this university was more than males.

3 Instruments

We used a three-section self-report questionnaire to collect data. The three parts of the questionnaire were as follow.

- *Socio-demographic data form*: the first section was used to collect data on socio-demographic characteristics of the participants, including age, family income level (low = 0, moderate = 1, high = 2), grade of academic education (first to fourth year), interest in college major (yes = 1 no = 0), being native to the county (yes = 1 no = 0), and marital status (single = 1 married = 2).
- *Oxford happiness questionnaire (OHQ)*: we used the Persian version of the standard OHQ to assess the level of happiness. The OHQ was originally developed and validated by Argyle and Lu (1990), with α value equal to 0.90 indicating the reliability of the OHQ. Alipoor and Noorbala (1999) validated the Persian version of the questionnaire on college students in Iran (α value = 0.93). In our study, we calculated the Cronbach's alpha of the scale ($\alpha = 0.87$) to confirm its reliability. The questionnaire consisted 29 items and all items are scored based on a four-point Likert type scale (ranging from zero to four). The OHQ score ranges from zero to 87, where the higher score indicates the higher level of happiness. Based on a previous study, an individual who obtains a score higher than the average is enjoying happiness (Hills and Argyle, 2002). Similarly, in previous Iranian studies, a score higher than average was considered to be indication for happiness (Pishgar et al., 2016; Hadinezhad and Zareei, 2009). Therefore, in the present study we considered the average score as the cut-off point to determine being with happiness among the students.
- *Academic self-efficacy belief and perceived academic stress questionnaires*: in the present study, we also used the Persian versions of the academic self-efficacy belief questionnaire (ASEBQ) and the academic stress questionnaire (ASQ). In a study conducted by Shokri et al. (2012), the Cronbach's alpha coefficients for ASEBQ and ASQ were 0.94 and 0.95, respectively (Shokri et al., 2012). The ASEBQ and ASQ were developed by Zajacova, et al. (2005) to be applied among college students. The ASEBQ has a list of 27 tasks. For each task, students are asked to determine how confident they are and how successfully they can complete each task through scoring each task on an 11-point Likert type scale (ranging from 0 = not at all confident to 10 = extremely confident). The ASQ, similar to ASEBQ, has a list of 27 tasks. For each task, students are asked to score, on an 11-point Likert type scale, that how stressfully they can complete each task (from 0 = not at all stressful to 10 = extremely stressful). Based on a study conducted by Zajacova, et al. (2005), the mean scores of self-efficacy and stress were 6.5 and 4.6, respectively. Therefore, we considered these cut-off points to define the students with academic self-efficacy and stress. An informed consent form was completed and signed by all participants.

4 Data analysis

The Statistical Package for Social Sciences (SPSS) v.17 for Windows (SPSS Inc., Chicago, IL) was used to conduct all statistical analyses. In order to summarise and

organise the data, we used the measures of central tendency and variability. The normality of data distribution was tested by one-sample Kolmogorov-Smirnov test. T-test and ANOVA tests were used to compare the total scores of happiness in terms of different demographic variables. Spearman's correlation test was used to assess the correlation between academic self-efficacy, academic stress, and happiness. Multiple logistic regressions were applied to find a set of best predictors for happiness. The level of significance was set 0.05, a priori.

5 Results

The mean age of participants was 21.11 ± 1.84 . About 61% of the participants were female and more than two-thirds (72.4%) were native students, and a majority were single (93.4%). Forty-three students (14.8%) were not interested in their college major. Most of the students (80.0%) had a moderate level of family income.

Table 1 The association between total score of happiness and sample characteristics

<i>Variables</i>	<i>Frequency (%)</i>	<i>Mean (\pmSD)</i>	<i>P-value</i>
Age	290	21.11 (1.84)	-
Gender			
Male	111 (38.3)	63.38 (16.05)	0.017*
Female	179 (61.7)	59.09 (13.90)	
Being native			
Yes	80 (27.6)	59.80 (11.68)	0.449
No	210 (72.4)	61.09 (15.94)	
Marital status			
Married	19 (6.6)	61.84 (15.64)	0.739
Single	271 (93.4)	60.66 (14.85)	
Being interested in colleague major			
Yes	247 (85.5)	61.65 (14.26)	0.011*
No	43 (14.8)	55.44 (17.26)	
Family income level			
Low	26 (9.0)	64.50 (19.18)	0.401
Medium	232 (80.0)	60.33 (14.39)	
High	32 (11.0)	60.59 (14.53)	
Colleague education years			
First year	86 (29.7)	58.06 (17.08)	0.001**
Second year	123 (42.4)	61.04 (14.13)	
Third year	65 (22.4)	60.04 (12.40)	
Fourth year	16 (5.5)	75.56 (7.25)	

Note: P values were determined using *T-test and **ANOVA.

The mean scores of happiness, academic self-efficacy, and stress among participants were 60.73 (0–87), 89.84 (0–270), and 190.64 (0–270), respectively. T-test showed a significant difference in total score of happiness by gender ($P < 0.05$). The difference favoured male gender. Applying ANOVA test, we found statistically significant differences in happiness by academic years of education ($P < 0.05$). The results of Turkey

HSD test showed the students at the fourth academic year of education with a higher level of happiness, compared to other students (Table 1).

Based on Mann-Whitney test, the level of academic stress among female students was significantly higher than that among male students ($P < 0.05$) as shown in Table 2.

Table 2 Differences between academic self-efficacy and stress in colleague students

<i>Variables</i>	<i>Male</i>	<i>Female</i>	<i>P-value</i>
Academic self-efficacy	194 (105–207)	185 (56–286)	0.291
Academic stress	75 (0–246)	92 (0–232)	0.008*

Note: *P-value reported based on Mann-Whitney test, median (min–max).

Spearman's correlation test showed a positive correlation between happiness and academic self-efficacy ($r = 0.324$ $P < 0.01$), a negative correlation between happiness and academic stress ($r = -0.273$ $P < 0.05$), and a negative correlation between academic self-efficacy and academic stress ($r = -0.358$ $P < 0.01$) as shown in Table 3.

Table 3 Spearman's correlation between total score of happiness with self-efficacy and stress in colleague students

<i>Variables</i>	<i>Happiness</i>	<i>Academic self-efficacy</i>	<i>Academic stress</i>
Happiness	1		
Academic self-efficacy	0.324**	1	
Academic stress	-0.273**	-0.358**	1

Note: **Correlation is significant at the 0.01 level (2-tailed).

The results of logistic regression showed gender, interest in major, academic year of education, academic self-efficacy, and academic stress as the significant determinants of happiness ($P < 0.05$). The students who were male [OR: 1.74, 95% confidence interval (CI): 1.96–3.16, $p = 0.040$], interested in their major (OR: 2.38 95% CI: 1.11–5.14, $P = 0.026$), at the fourth grade of academic education (OR: 2.38 95% CI: 1.11–5.14, $P = 0.026$), and with a higher level of academic self-efficacy (OR: 2.20 95% CI: 1.01, 4.79) had significantly higher levels of happiness, compared to their counterparts. In contrast, the students with academic stress had lower levels of happiness, compared to the other students (OR: 1.98 95% CI: 1.02, 3.82) as shown in Table 4.

Table 4 Multivariate logistic regression and independent predictors of happiness in college students

<i>Variables</i>	<i>Adjusted OR</i>	<i>95% CI</i>	<i>P-value</i>
Gender			
Male	1.72	(1.01, 2.93)	0.044
Female	Reference	-----	-----
Being native			
Yes	1.02	(0.57, 1.85)	0.923
No	Reference	-----	-----
Marital status			
Married	0.66	(0.27, 2.11)	0.484
Single	Reference	-----	-----

Table 4 Multivariate logistic regression and independent predictors of happiness in college students (continued)

<i>Variables</i>	<i>Adjusted OR</i>	<i>95% CI</i>	<i>P-value</i>
Being interested in college major			
Yes	2.17	(1.05, 4.46)	0.034
No	Reference	-----	-----
Family income level			
Low	0.93	(0.51, 1.70)	0.830#
Medium	1.01	(0.29, 3.50)	0.982
High	0.58	(0.21, 1.57)	0.585
High	Reference	-----	-----
Grade of academic education			
First year	1.50	(0.76, 0.96)	0.034#
Second year	0.312	(0.90, 1.08)	0.068
Third year	0.349	(0.10, 1.17)	0.089
Fourth year	1.98	(1.02, 3.82)	0.249
Fourth year	Reference	-----	-----
Academic self-efficacy			
Yes	2.20	(1.01, 4.79)	0.033
No	Reference	-----	-----
Academic stress			
No	1.98	(1.02, 3.82)	0.041
Yes	Reference	-----	-----

6 Discussion

Our aim in the present study was to determine the factors associated with happiness among college students in Sarab County, Iran. We found that the level of happiness was higher among male students, and the students with higher level of academic self-efficacy and lower level of academic stress, compared to their counterparts. Our findings also demonstrated that the students who were interested in their college major and were at the highest grade of academic year, had higher levels of happiness, compared to the other students.

The results of the present study showed that, compared to the female students, the male students were happier. This finding is in line with previous studies that reported higher levels of unhappiness among females, compared to the males (Perez, 2012; Akhter, 2015). Such a finding may be attributed to the females' emotions, as they have a close relationship with their family. Thus, it is not easy for them to detach from their family and go to another city to live in dormitory. The difference may also be attributed to psychological and biological factors (Farhud et al., 2014). Chui and Wong (2016) however, reported inconsistent findings with our results and suggested that females are happier than males. There is also a reason for such a result in the literature. Male students may receive less social support from friends, family, and teachers; and thus, are prone to have a lower level of happiness (Vaidya, 2014). Based on these controversial findings, it seems that the differences are associated to the context of societies. Cultures and customs

may cause gender-based differences in the patterns of marriage, social roles, and social support in different societies (Hori and Kamo, 2017).

Furthermore, our results showed the interest in college major as a significant determinant of happiness, which is in agreement with those reported in another Iranian study. Abolmaali et al. (2014) reported that the educational field may be a predictor for happiness among students. A college student who is interested in his/her own field of study tends to develop his/her knowledge, positive emotions, and personal value. It is therefore likely for such a student to have a high level of happiness. Our findings also showed that the students at the last year of academic education were happier than those at the other years of academic education. In line with this result, Michalos (2017) reported that the academic year of education can predict happiness among students. Studying at the last year of academic education brings students with social value after four years of education, which helps them to cope better with new environments, and thus may reduce their academic stress. In contrast, we found the students at the first year of academic education with the lowest level of happiness, compared to other students. Changes in their environment and level of education, after coming from family home/high school to dormitory/college may increase their level of perceived stress, and, consequently, decrease their level of happiness.

In our study, the students who had academic self-efficacy were happier than other students. This finding is in line with those reported by Hunagund and Hangal (2014). Self-efficacy can promote an individual's performance in different areas. Hence, a student with a low level of happiness, but with a high level of self-efficacy, may perform appropriate behaviours to have academic achievements; thus, from an optimistic view, he or she may be able to cope with a variety of stressors (Salami, 2010).

Based on our results, academic stress had a negative relationship with academic self-efficacy and was a determinant for low happiness among students. It means that the negative effect of perceived academic stress on happiness may be mediated by the low levels of academic self-efficacy. This finding is in line with the results of a previous study that showed associations between high level of stress and low level of happiness among college students (King et al., 2014). College-related issues such as assignments, financial issues, daily stressors, life events, and social relationships may cause academic stress. Therefore, it is suggested to universities to develop particular plans for junior students to resolve or reduce the accommodation related problems of such students. Previous studies have shown that the students who are engaged in leisure activities, seek social connections, and have emotional relationships with others can reduce or manage their stress and improve their level of happiness (Chao, 2011; Merianos et al., 2012). Like any other setting, universities have specific health issues, such as stress, which may affect happiness among students. Therefore, universities can potentially act as a model for health promotion. For instance, they can implement health education and health promotion programs to train the students on how to reduce or manage their stress, how to promote their self-efficacy and how to make a happier environment for themselves.

As a limitation of our study, we did not investigate some gender-specific factors like personality traits or biological differences between male and female students. For future studies, such traits should be considered while designing similar research plans for college students. In addition, women outnumber men in this study, which may prone our data to sampling bias. Considering the cross-sectional nature of the study, causal inferences from the results are warranted.

7 Conclusions

Our findings showed that the level of happiness was higher among male students. In addition, the students interested in their college major, with a high level of academic self-efficacy, and low level of academic stress had better levels of happiness. Considering the significant associations between academic self-efficacy, academic stress, and happiness among the college students, the universities are recommended to revisit their current regulations on educating their students on how to have a healthy and happy lifestyle and how to promote their own level of mental health. Such efforts may be implemented through designing health promotion programs and financial supports for the junior students. Application of health promoting settings strategies by university healthcare providers may be helpful while designing such health promotion programs within universities.

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