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Comparing Skills of Critical Thinking and Happiness among Students of Faculty of Medial Sciences and other Universities of Ghaen

Background: Educational achievement is highly important in the higher education and universities' system in all countries. Critical thinking and problem solving skills are the main outcomes of higher education and the accreditation criteria. Happiness is one of the fundamental emotions of human beings that has a crucial role in the health of individuals and society. It could be the catalyst and facilitator in the development of critical thinking. The purpose of the present study was to compare critical thinking skills and happiness among the students of different universities.

Methods: This is a descriptive analytical study conducted on 244 students of different universities of Ghaen that entered the study by multistage cluster sampling. Ryttas questionnaire of critical thinking 2003 and Oxford Happiness questionnaire were used and the data were analyzed by SPSS (ver. 14), Pearson's correlation, independent t-test, and ANOVA and the statistical significance level was 0.05.

Results: 163 participants (66.8%) were male and 81 students (33.2%) were female. The results presented that there is a significant difference between the mean of critical thinking and happiness among the students based on universities ($p < 0.05$). Furthermore, there is a significant difference between critical thinking and happiness ($r = 0.246$).

Conclusions: Educational programmers should concern critical thinking and the methods to upgrade it. Moreover, the teachers should use new teaching methods in the curriculum in order to increase happiness in the students.

Keywords: Critical thinking, Happiness, Students

مقایسه مهارتهای تفکر انتقادی و شادکامی در بین دانشجویان دانشکده علوم پزشکی با سایر دانشگاه های قاین

زمینه و هدف: پیشرفت تحصیلی یکی از موضوعاتی است که در حوزه آموزش عالی و سیستم دانشگاهی هر کشوری اهمیت زیادی دارد. تفکر انتقادی و مهارت حل مساله از بروندادهای اصلی آموزش عالی و معیارهای اعتباربخشی دانشگاه ها می باشد. شادکامی یکی از احساسات ریشه ای انسان، نقشی تعیین کننده در سلامت فرد و جامعه دارد و می تواند به عنوان کاتالیزور و تسهیل کننده، در توسعه ی تفکر انتقادی نیز نقش داشته باشد. مطالعه حاضر با هدف مقایسه مهارتهای تفکر انتقادی، شادکامی دانشجویان دانشگاههای مختلف انجام گرفته است.

روش ها: این مطالعه، یک مطالعه توصیفی- تحلیلی است که بر روی ۲۴۴ دانشجویان دانشگاه های مختلف شهرستان قاین که به صورت نمونه گیری خوشه ای چند مرحله ای وارد مطالعه شدند، انجام گرفت. در این مطالعه از پرسشنامه های تفکر انتقادی ریتکس ۲۰۰۳، پرسشنامه شادکامی آکسفورد استفاده شد داده ها با استفاده از نرم افزار SPSS ویرایش ۱۴ و آزمون های آماری همبستگی پیرسن، t مستقل و ANOVA در سطح معنی داری ۰/۰۵ تجزیه و تحلیل شدند.

یافته ها: از بین ۲۴۴ دانشجوی مورد مطالعه، ۱۶۳ نفر (۶۶/۸٪) پسر و ۸۱ نفر (۳۳/۲٪) دختر بودند. نتایج نشان داد که بین میانگین نمره تفکر انتقادی، شادکامی در دانشجویان بر حسب دانشگاه تفاوت معنی داری وجود دارد. ($p < 0.05$). همچنین بین تفکر انتقادی با شادکامی دانشجویان رابطه معنی داری وجود داشت ($r = 0.246$).

نتیجه گیری: تفکر انتقادی و روش های ارتقای آن باید مورد توجه برنامه ریزان آموزشی قرار گیرد و اساتید از روش های نوین آموزشی در برنامه درسی در جهت افزایش شادکامی تحصیلی دانشجویان بهره گیرند.

واژه های کلیدی: تفکر انتقادی، شادکامی، دانشجویان

مقایسه مهارت تفکر انتقاد و الرفاهیه بین طلاب کلیه الطب و سایر الجامعات فی مدينه قاین

التصميم و الهدف: يعتبر التطور التعليمي من الموضوعات الأساسية في مجال التعليم الجامعي في البلاد. إن التفكير النقاد و مهاره حل المسألة من أهم الأهداف التعليمية و التي تصفهي اعتبارا " بالفا" إلى الجامعات. إن الرفاهية هو حس عمقى عند البشر و يعين سلامة الفرد و المجتمع. و يعتبر عامل مساعد و مسرول في توسعه التفكير النقاد. إن الدراسة العاليه تحريف إلى مقارنة مهاره التفكير النقاد و الرفاهية عند طلاب الجامعات.

الأسلوب: إن هذه الدراسة التوصيفية و التعليمية تمت على ۲۴۴ طالب من طلبة جامعات مدينه قاین اعتمادنا في تصحيح النتائج على الاسلوب المنقودي. تم استخدام إستمارات التفكير النقاد ريتكس ۲۰۰۳ و إستماره أكسفورد الرفاهية. تم تحليل المطيبات عبر برنامج spss النسخه ۱۴ الإحصائي و الإختبارات الإحصائية. ترابط پيرسن. T. المستقل و ($p = 0.05$) Anova

النتائج: من بين 244 طالب الذين إشتراكوا في الدراسة ۱۶۳ من الذكور (۶۶.۸٪). ۸۱ كانوا من الاناث (۳۳.۲٪). أشارت النتائج إلى أن معدل علامة التفكير النقاد و الرفاهية عند الطلاب كان مختلفا في الجامعات ($P < 0.05$) و أيضا كان هناك إرتباط ذو قيمة بين التفكير النقاد و الرفاهية عند الطلاب ($r = 0.246$)

الاستنتاج: إن التفكير النقاد و أساليب إرتقا. هذا التفكير يجب أن يكون في جدول البرمجة التعليمية و يجب إن يستخدم الأساتذة برامج تعليمية جديدة تحريف مستوى الرفاهية التعليمية عند الطلاب.

الكلمات المفتاح: التفكير النقاد- الرفاهية - الطلاب.

قاین یونیورسیتی کی میٹیکل یونیورسٹی اور دیگر یونیورسٹیوں میں طلباء کی تنقیدی فکر اور خوش رہنے کا جائزہ.

ہیگ گراؤنڈ: تعلیم میں پیشرفت کرنا ان مسائل میں سے جن پر اعلیٰ تعلیم کا شعبہ اور یونیورسٹی نظام تعلیم بہت زیادہ تاکید کرتا ہے۔ تنقیدی فکر اور مسئلے کو حل کرنے کی صلاحیت اعلیٰ تعلیم اور یونیورسٹیوں کو اعتبار عطا کرتی ہے۔ خوشی اور خوش رہنا انسان کا یا بنیادی جذبہ ہے جو فرد اور معاشرے کی سلامتی میں اہم کردار ادا کرتی ہے اور انسان کی تنقید فکر کو پروان چڑھانے میں رول ادا کرتی ہے۔ یہ تحقیق مختلف یونیورسٹیوں کے طلباء کے درمیان تنقیدی فکر کا جائزہ لے جانے کے لئے انجام پائی ہے۔

روش: یہ تحقیق ایک تجزیاتی تحقیق ہے جس میں قاین کی مختلف یونیورسٹیوں کے دو سو چوالیس طلباء نے شرکت کی۔ تحقیق میں شرکت کرنے والے طلباء کو رائٹکس کا تنقیدی فکر کا سوالنامہ اور آکسفورڈ یونیورسٹی کا سوالنامہ جس میں خوش رہنے کے بارے میں سوال کئے گئے تھے دیا گیا۔ ڈیٹا کا ایس پی ایس اور ایڈیٹ چوڈہ نیز پیرسن ٹسٹ، ٹی ٹسٹ اور اینووا ٹسٹ کے ذریعے تجزیہ کیا گیا۔

نتیجے: تحقیق میں شرکت کرنے والے دو سو چوالیس طلباء میں سے ایک سو ترسٹھ لڑکے تھے اور اکیا سی لڑکیاں تھیں۔ تحقیق سے پتہ چلتا ہے کہ تنقیدی فکر، خوش رہنے میں یونیورسٹیوں میں آپس میں کافی فرق پایا جاتا ہے، اس کے علاوہ خوش رہنے اور تنقیدی فکر میں بھی خاصہ رابطہ پایا جاتا ہے۔

سفارشات: طلباء کے درمیان تنقیدی فکر کو پروان چڑھانے کے لئے کوشش کرنی چاہیے اور اساتذہ کو چاہیے کہ وہ تعلیم کی نئی روشوں سے استفادہ کرتے ہوئے طلباء کے خوش رہنے کے سامان فراہم کریں۔

کلیدی الفاظ: خوش رہنا، یونیورسٹی اور تنقیدی فکر۔

INTRODUCTION

Nowadays, higher education is the infrastructure of social, economic, political and cultural development in the countries. Reviewing the factors of progress in developed countries demonstrated that they have a capable, effective and efficient educational system (1). Educational achievement is one of the main issues in the educational system of the countries. The framework of educational achievement could influence the future of a country or a nation (2).

On the other hand, students' educational achievement is one of the important indicators in the higher education system. In other words, society and specially higher education concerns about the destiny of the individual, successful evolution and his/her status in the society. It is expected that the individuals develop and improve from different perspectives, including cognitive aspects, gaining skills and capabilities, and personal, emotional and behavioral dimensions (3).

Therefore, higher education system should enhance knowledge, attitude and skills of students about criticism, critical thinking and research. Since of the main goals of higher education is to foster critical thinking methods in the students (4). Critical thinking is described as one of the skills of humans in the 21 century by UNESCO that could realize and implement different solutions (5). Critical thinking could be useful to achieve a better life in dealing with the increasing challenges of information age, while a huge amount of information is easily accessible. Owing to this fact, Piaget considers critical thinking the main purpose of the educational system in the training of human beings (6). Since critical thinking has become highly important in the education process, it is essential to define a fundamental and a common understanding of different definitions of the critical thinking (7). There have been different definitions of critical thinking, however, there is no consensus about what the critical thinking is (8).

Many of the authors and pundits have explained critical thinking as a cognitive skill and problem-solving ability (9, 10, and 11). Lyutykh believes that critical thinking is the "correct way of thinking" (12). Critical thinking is reasonable, orderly, purposeful, effective, and logical and based on the outcome that studies and analyzes all available information and opinions via a scientific method (13).

Others believe that critical thinking occurs based on special skills such as the ability to assess and measure reasons sensibly (14). Critical thinking includes skills of assessment, inference, analysis, deductive reasoning and inductive reasoning (15). In fact, critical thinking requires willingness to search for reality, curiosity and being analytical (16). This type of attitude assists students to deal with social, scientific and practical problems influentially. Furthermore, it has an impact on the students' learning style and performance (17).

Another influential factor in the students' educational development is happiness that is the dimension of critical thinking. It means that critical thinking results in happiness, and vice versa, happiness has a positive impact on critical

mental health component and the major element of subjective well-being. Happy individuals feel more secure, make decisions easier, have higher participation and feel more satisfied in their life. These people are more successful and handle their duties better, moreover, they can solve the problems better (19). The studies showed that the happy students have better performance in their educational achievement (20). Due to this reason, the experts believe that happiness should become the main purpose of education. Therefore, nowadays the studies are focused on the relationship between critical thinking and the psychological and educational variables. Measuring the skills of critical thinking is essential in order to recognize and resolve the students' cognitive deficiencies; in addition it is necessary to analyze the impact of educational strategies (21). In accordance to the importance of critical thinking and happiness in students, the present research was conducted to study the relationship between critical thinking and happiness with educational achievement among the students of Ghaen universities.

METHODS

This is a descriptive analytical study. The study population was the students of university of medical sciences, engineering, Payam Noor, and Islamic Azad University in the city of Ghaen. The sample size was determined by Morgan table and the 244 samples were selected. The students were selected by multi-stage cluster sampling. The instruments were Oxford Happiness and Rytas questionnaire of critical thinking 2003. The samples consented to take part in the study. Providing explanations, the researcher distributed and gathered the questionnaire.

A. Rytas questionnaire of critical thinking 2003: the original form of this test had 33 questions including 3 subscales. The first part had 11 questions about the evaluation of creativity, second part included 9 questions about maturity and the third part included 13 questions about commitment. It is scored by five-point Likert Scale. The following results have been gained: creativity 75%, maturity 57%, and commitment 86%. Cronbach's alpha was used to determine the reliability of the questionnaire and the coefficient was 85% that was acceptable since it was higher than 0.7.

B. Oxford Happiness Questionnaire: this tool was developed by Michael Argyle and his colleagues in 1989. It included 29 multiple choice items that were scored from zero to three, respectively. The total score of the 29 items was considered as the total score of the scale. The score of the participants was between zero to 87. Amirpoor used Cronbach's Alpha to determine the reliability of happiness questionnaire and the reliability was 93% (22). Furthermore, the validity was confirmed by experts. The reliability was determined by Cronbach's Alpha method and the coefficient was 85% that was acceptable since it was higher than 0.7.

The data were analyzed by SPSS version 14, descriptive statistics (frequency, mean, and standard deviation), and Pearson correlation test, Independent T Test and ANOVA were statistically significant 0.05.

RESULTS

Among the participants 163 individuals (66.8%) were male and 81 (33.2%) were female. The average age of the students was 23.43 ± 5.41 , the minimum was 18 and the maximum was 32 (table 1 and 2).

Variable	Dimension	Frequency	Percentage
Gender	male	163	66.8
	Female	81	33.2
University	Medical sciences	68	27.9
	Engineering	61	25
	Paym Noor	33	13.5
	Azad	82	33.6
Grade	College	44	18
	Bachelor	197	80.7
Marital status	Master	3	1.2
	Single	202	82.8
Semester	Married	42	17.2
	First	44	18
	second	57	23.4
	Third	27	11.1
	fourth	55	22.5
	Fifth	13	5.3
	sixth	37	15.2
	seventh	6	2.5
	Eighth	5	2

The result of ANOVA showed that there is statistical significant difference between the mean of critical thinking and happiness based on universities ($p > 0.05$). (Table 3) The results of the correlation coefficient of Pearson presented that there is a significant positive relationship between the variables of critical thinking and happiness. In accordance to the results of Independent T Test, there was no significant difference in the average score of critical thinking among the male and female students. (Table 5)

DISCUSSION

Nowadays the experts of education agree that critical thinking should not only be one of the purposes of education, but also should be an integral part of the education at different levels. Critical thinking could provide the best solution via analysis, assessment, selection and application, which is the essence of the world nowadays. Therefore, developing thinking skills, including critical thinking should be considered as an educational priority. The present teaching methods used in the universities, including lecture method make the learners inactive that deprives them from the ability of critical thinking. Consequently, the purpose of the present study was to compare critical thinking skills and happiness among the students of the university.

The results of the current study presented that there was a significant difference ($p: 0.001$) in the comparison of critical thinking skill among the students of medical sciences, engineering, Payam Noor and Islamic Azad universities. Among the participants, students of engineering gained the highest score of critical thinking 115.62 ± 13.23 ; and then were students of medical university, Payam Noor, and Islamic Azad Universities, respectively. The mean of all students showed that their critical thinking is higher than average. This is highly important, especially among the medical students, since on one hand there are rapid

Table 2. the mean of variables in the sample

Variable – statistics	Average and standard deviation	Minimum	Maximum
Critical thinking	115.62 ± 13.23	71	155
Happiness	72.50 ± 14.83	30	116
Age	23.43 ± 5.41	18	32

Table 3. comparing the mean of variables (critical thinking, happiness) based on university

Variable of university	Medical Sciences University	Engineering University	Payam Noor University	Azad University	P-value
	Standard deviation \pm mean	Standard deviation \pm mean	Standard deviation \pm mean	Standard deviation \pm mean	
Critical thinking	115.54 ± 14.67	12.83 ± 13.53	112.69 ± 11.12	112.97 ± 11.56	0.005
Happiness	69.11 ± 14.16	75.24 ± 14.36	66.09 ± 15.12	75.85 ± 14.64	0.001

Table 4. Correlation matrix of variables			
happiness	Critical thinking	Variable	
0.246**	1	Correlation	Critical thinking
0.001	-	Significance Level	
1	0.246**	Correlation	Happiness
-	0.001	Significance Level	

Table 5. comparing the mean score of critical thinking and happiness based on gender			
Gender variable	Male	Female	P-value
	Standard deviation ± mean	Standard deviation ± mean	
Critical thinking	114.71 ± 13.71	117.5 ± 11.95	0.128
Happiness	73.88 ± 13.88	69.71 ± 16.35	0.038

medicine and on the other hand the medical students should get along with the complexities of the health system; therefore, critical thinking is an essence for this group of students, Hasanpoor (23) and Azdi (24) have also shown in their studies. The results of the current study showed that the variable of happiness has significant difference 0.001 between different universities.

Myers and his colleagues 1995 declared that the people with higher critical thinking ability, can conclude more reasonably and are happier (12). In addition, the study of Vahdat and his colleagues showed the students that are better at critical thinking have better educational achievement (25). In the study of Moradi et al. (26), it was declared that clinical education about problem solving could be influential to enhance students' critical thinking. In addition, Ghanbari Hashem Abadi and his colleagues mentioned that critical thinking could predict happiness which is consistent with the results of the present study (27). Chan and his colleagues stated that critical thinking is related to creativity (28). Fisher believes that critical thinking and creativity could not be separated, creative thinking and critical thinking are two peculiarities of human beings. Furthermore, Sborn states that critical mind supervises creative mind; creativity is considered as a component of critical thinking and the results show that there is a significant relationship between the two variables (P: 0.0001) (11).

Furthermore, the results demonstrated that there is a significant difference between the levels of students' happiness at different universities which is consistent with the results of Fazl Elahi and his colleagues (29). This result could be affected by the welfare status, and cultural and sport facilities of each university. The results of the relationship between students' critical thinking skill and happiness presented that if the students have higher critical thinking skill, the level of happiness and satisfaction

them. This result is consistent with the result of Bayat and his colleagues. They showed that there is a significant relationship (P < 0.05) between happiness, creativity and dignity (30). In addition, Amipoor (22) stated that there is a significant difference between critical thinking and happiness which consistent with our study. Since critical thinking results in students' flexibility, appropriate reaction, correct predictions and rational decision making, and accountability that leads to the increase of happiness.

The results of the present study demonstrated that the level of critical thinking and happiness is higher than average in different universities. Since the students of medical university require education of cognitive skills, problem solving, teaching based on performance, scientific method based on the analysis of data, therefore, it is an essence for the Education Department and Development Center of Medical Sciences University to teach critical thinking skills. Furthermore, education should be based on active methods so that the students think and discuss more. Moreover, it is recommended to use simulation and rethinking techniques. Happiness is the mood dimension of critical thinking and influences the components of thinking, intelligence and creativity and is a component of mental health. Consequently, it is suggested to the Department of Students of universities to hold scientific, cultural and recreational programs in order to enhance the level of happiness and social welfare among the students.

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Conflict of Interest: The authors declare no conflict of interest.

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