

The Comparison of Critical Thinking, Hard effort, Advancement Motive and Creativity of Male and Female Students of Islamic Azad University Andimeshk Unit

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Abstract: Purpose of present research was the comparison of critical thinking, hardiness, advancement motivation and creativity in male and female students of Islamic Azad University Andimeshk Unit. Mass of under study sample was 354 individuals (188 girls & 166 boys student of university) that were selected classically & rationally. For collecting data, four questionnaire were of thinking skills test of California (B form) (cctst), hardiness questionnaire, Advancement Motive questionnaire of Hermanz and Abbey creativity questionnaire was used. This research was from kind of post facto and multivariable variance analysis (MANOVA) was used for statistical analysis of data. Results of this research analysis showed that there was a significant difference between critical thinking skill, hardiness in the level of ($p < 0.01$) and creativity in the level of ($p < 0.05$) in male and female students, but there wasn't a significant difference by viewpoint of advancement motive at the level of ($P < 0.05$) between male and female students.

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Key terms: Critical Thinking, hard effort, advancement Motive and Creativity

Introduction:

Women & men have sole characteristics. For example women, are different from men by viewpoint of body, affect, and some other individual characteristic. This difference in other cognition, social and mental- movement background is also observed. Among those variables that can be different between these two groups, critical thinking, hard effort, and advancement motive are mentionable. Way of thinking is an important subject, because based on that "life philosophy" of any person is made (shamlou, 2006). Thinking is final deliberation of human. Quality of our future, totally depend on quality of our thinking. This point also at the level of individual and also at the level of society and at the level of world is true (Dobouno 1967, Translated by faraji, 2004). In general thinking is a capability that by it, person can solve a problem, or realize a fact (Halahan & Kafman, 1944 translated by Javadian, 2004). Thinking is inherent part of human growth and this point is a sufficient reason that we are thinking animal. During past twenty years we have been the witness of big & modern primary- movement-action for development of rationalism. This move meant, has been named as critical thinking or thinking skill (Fisher, 1970 translated by kian zadeh 2006). Critical thinking is one of aspect of thinking (Fisher,

2002). Stoonetal (2001) believe that the base of critical thinking actually is the help to better decision making. In other word critical thinking is recognition and cognition of application program for solving that problem. In a research Kevin & Gerry (2009) concluded that students who have positive & strong look at critical thinking, have strong and normal beliefment that is with their thinking skills, and these beliefments affect the "self" as critical thinker (Loeis, 2007, Jane et al, 2004, Islam ababy et al, 2004, King & Shel, 2002) in a research found that at present time one third of students lack critical thinking skills. This findings show that students- critical thinking skill levels are at a very low level. In an other research Ching & Choan (2004) showed that there is a relation between creativity and critical thinking of individuals. Based on a research (Shafiei et al, 2001) there is no difference between male & female students by viewpoint of critical thinking skills. This means that there is no difference between girls & boys by viewpoint of critical thinking skills and nearly boot, are at the same level. (Gharib et al, 2009) in a research found a significant difference between first year and last year students by viewpoint of critical thinking skills. One of very apparent and very important personality characteristic that has well- deserved share

in cognition of human as a independent and valuable creature is hard effort (Kubasa, 1979). The existence of this structure help the individual to succeed in facing to dangerous events. Making hard effort persons believe that life- events are not so stress full (Ghorbani et al, 2000) and better acclimatized with these events. Investigations show that making hard efforts has positive relation with physical & mental health and as a internal resistance resource, decrease negative stress effects, and prevents the affliction to physical & mental disorders (Flourine, 1995, Berks, Zakin, Soulon, 2003). Adler and Smith (1989) found that men with high making effort and reacted have been more adaptable in dangerous responsibilities. Most researches show that high-making hard- effort testable s have more positive statements in responding to dangerous evaluation than testable with low hard making effort (Eshmid and Lover, 1986, Wibe, 1991, Naderi and Husseini, 2010, Weissi, Wahid & Rezaei, 2000, Kiamarsi, najarian, & mehrabizadh honarmand, 1998). In a research found that men who were high- hard- maker- effort showed less physiologic excitement. Than men with low hard making effort such difference was not observed on hard making effort of women. Although when making hard effort is investigated against gender, it s supporting effect only is observed on men. One of most important social & cognitive motive that affect the behavior of human is the motive of advancement that it can be considered in anticipating and explanation of human behaviore (Eliot, 1997). Now a day s progress motive is considered as one of cognitive specification of societies development (Khoda penahy, 2007). I general individuals who have progress motive feet that they control on their life and enjoy it. They try to improve their performance and prefer to perform work s that is challenging and start to work something that it s progress evaluation is possible. (Tokeld, 2000, Eshlavin, 2006) in a research showed that individuals who are in a high level of progress motive are very deligent for solving difficulties and reaching to succession. Even after failing to perform do not leave it, and try to reach the succession. Rowahland et al (2007) concluded that student s that have high level progress motive, have more effect on their educational performance and raise the performance level comparing the student s who have lesser progress motive. On the other hand Abdollahi (2000) in a research showed that there is no significant relation between progress motive and educational performance of student s. Akan zosho et al (2005) in a research show that in Asian-American students, the average of fear level related to succession and avoidance from activity as compared to British- American student s was higher. One of basic and constructive characteristic of human is creativity that has an effective role in growth and evolution of individual and human

civilization and is foundation of invents and artistic & scientific production. Performed researches concerning creativity show that creativity is not a donation the special individuals benefit from it (Shah husseini an Kawousi, 2009). In fact creativity is art for extending possibility (Westoon, 2009). The ability to shine a new light on a position, is a challenge or a problem to hereby, new possibilities be created that before were not apparent (Kolman, 2005). Herman, father of mind dominance, believes that any person is a unique mixture of think different desires and this desires will lead in different behaviore (Ghasemzadeh, 2002). Lew & New (2009) in a research showed that student s who were provided proper, skillfully and specialized strategy training or several guideline that are from training, have more ability in creativity background and also some differences were deserved between girls & boy s and showed that girl s when were provided specialized training, their creativity were at a higher level comparing with boy s (Sherifi & Davery, 2009 and Shar array, 2008). In a research found that there is difference between male & female high school student s by view point of creativity- variable. Therefore in this research we are seeking for this scientific question answer that whet here there is any difference between male & female student s by viewpoint s of critical thinking, making hard effort, achievement motivation and creativity or not?

Hypothesizes of research

- 1) There is difference between male & female students by viewpoint of critical thinking.
- 2) There is difference between male & female students by viewpoint of making hard effort.
- 3) There is difference between male & female students by viewpoint of achievement motivation.
- 4) There is difference between male & female students by viewpoint of creativity.

Procedure

Community, statistical sample and sampling procedure. In this research, statistical community included all male & female students of Islamic Azad University Andimeshk Unit that were engaged in education in year 2021-2020 and their no was 4464 individuals. By using morgan table the mass of sample was obtained as 354(166 male & 188 female students) that were selected based on classical- randomic-sampling procedure among Islamic- Azad- University- Andimeshk Unit.

Table no 1: distribution of test ables by gender

Gender	Frequency	Percent	Density Frequency Percentage
Boy	166	46/9	46/9
Girl	188	53/1	100
Total	345	100	

As it considered in table No (1) male students contain 46/9 Percent and females contain 53/1 Percent

Toads of measurement

A) critical thinking questionnaire:

A developed test for measurement of critical thinking skills in university students that at first has been manner- finding and translated by Khalili and Solaimani (2003). This test contains 34 questions that 18 questions is 4 alternatives and 16 questions are 5 alternatives. Testable s for every question should among all alternative, select one alternative that by their judgment is the best answer. For every correct answer, one score will be belonged to testable. Least score is zero and maximum is 34. That test, is in 5 dimensions of critical thinking- cognitive- skillness containing evaluation (14 question s), analogy (17 question s), induction (14), realization (11 question s), and analysis (9 question s) that some question s relate to a few skillness (Fashion, 1977, Qouted from Mehrinejad, 2007). Durability of test was determined by using formula no 20 of Kuder Richardson in limit of 0/68- 0/71 (Fashion and Fashion, 1993) e 0/62 (Khalili & Solaimani, 2003) 0/82 (Abdhaigh, 2004). Also durability of critical thinking in present research by two procedures of Alpha chronbakh and split-half was calculated. Coefficient of durability was used by procedure of Alpha chronbakh equals to 0/94 and two procedures of split-half from correlation coefficient formula of Spearman- Brown. Calculated durability coefficient was 0/94 and 0/94 by using Got man and Spearman- Brown, respectively.

B) Hard- making- effort scale questionnaire:

This questionnaire is a 45 question s test. A question was determined in liker 4 degree scale from zero score to 3 for 3 sub- scale of commitment, control and militancy. Every subscales of this test is evaluated by 15 question s. Test score in each subscale of test is zero and it s maximum is 45 in addition to three sub- scales, from totally score of sub- scales, one totally score for hard-making – effort is obtained. In preliminary credit finding of hard- making-effort related to three samples of students, athletes' and patients, the psychometric characteristic is reported as follow. Alpha coefficients (10) from 0/88 to 0/99 for sub- scale of commitment, from 0/85 to 0/94 for control sub- scale from 0/89 to 0/95 for sub- scale of militancy and from 0/78 to 0/94 for score of totally hard- making- effort is calculated that is indicator of good internal- similarity. Score- correlation- coefficient with interval of two to four week from 0/82 to 0/90 for sub- scale of commitment, from 0/80 to 0/88 for totally score of hard- making- effort is cal collated, that is

indicator of enough retest of durability for scale (Besharati, 2008). Also in present research durability of hard making effort is calculated by two procedure of Alpha chronbakh and split-half . Coefficient of durability by method of Alpha chronbakh equal to 0/86 and in split-half method, correlation coefficient formula of Spearman- Brown was used. Calculated durability coefficient by using Spearman- Brown method and Got man respectively is equal to 0/81 and 0/81.

C) Questionnaire of achievement motion (AMQ):

Questionnaire of Achievement motivation is a paper- pencil- tool that have been prepared by Hermanz (1970) and is translated to farsi by shekar shekan and Bromand Nassab(2002). This questionnaire has 29 articles that are in form of uncompleted sentences and offered alternatives for each article range from 4 to 6 alternative. Based on this maximum score of each article is between 4 to 6 that with regard to no of alternatives of each article, vary. Calculated correlation coefficient for was $r=0/46$ that in the level of 0.05 was significant. Also for calculating durability coefficient Alpha chron bakh and split-half method was used. In split-half method formula of Spearman- Brown correlation coefficient was used. Alpha chronbakh coefficient that was coefficient calculated as 0/71 and calculated-derivability coefficient by using Spearman-Brown and Got man methods were 0/78 & 0/77 respectively.

D) creativity questionair of Abedi:

This test is a paper- penile test that have been prepared by Abedi and translated by Kefayat (1994). These tests have 60 article that measures four characteristics of creative persons that contain fluidity, initiation, flexibility and expansion. Coed ancient of test creditability was reported as 0/46 by using

Structure credit by Abedi quoted from Kefayat (1994). Also in present research the durability of questionnaire of Abedi creativity by alphachronbakh and split-half method was calculated. Durability coefficient by alpha chronbakh was 0/65 and in split-half method formula of Spearman-Brown correlation coefficient was used. and calculated durability coefficient by Spearman-Brown and got man method is equal to 0/85 & 0/85 respectively.

Foundlings of research

Founding related to hypothesis of research, table no 2: Results of multivariable variance analysis (MANUA) on variables of critical thinking, hard making effort, achievement motivation and creativity in male & female students.

Table 2:

Multivariable test s	Value	F	Supped freedom degree	Error freedom deg	Significance level
Pilaei effect test	0/18	19/56	4	349	0/0001
Helling test	0/81	19/56	4	349	0/0001
Lambday vilks test	0/22	19/56	4	349	0/0001
Root going test	0/22	19/56	4	349	0/0001

According to table (2) it is considered that significant level of all tests show that there significant difference between totally male & female students by dependant variabable s (critical thinking, hard making effort, achievement motivation and creativity). Now,

for finding that between boys and girls by view point of wich dependant variable.

There is significant, the test of effects between testable is used that in table No (3) IS offered.

Table 3: Results of effects between testables by viewpoint of critical thinking, making effort, achievement motivation and creativity in girls & boys students

viabile	Sum of squares	Degree of freedom	average	F	significance
critical thinking	4380/71	1	4380/71	60/81	0/0001
making effort	5784/65	1	5784/65	16/38	0/0001
achievement motivation	0/13	1	0/13	0/001	0/97
creativity	441/07	1	441/07	60/81	0/03

Based on table No (3) it is observed that between male and female students there is difference by viewpoint of critical thinking ($f=60/81$, $p<0/0001$). Therefore the first hypothesis is confirmed. In other word, with regarding to average of two grope, girl students had more critical thinking than boys students.

Also there is a difference between male & female. Students by viewpoint of hard-making-effort ($f=16/38$, $p<0/0001$). Therefore the second hypothesis also is confirmed. In other word with regarding to two group s average, male students are more hard-making effort than female students. A difference has not been observed between male & female students by viewpoint of achievement motivation ($f=0/001$, $p=0/97$). Therefore the third hypothesis is retested. In other word with regarding the average of two groups of students, no difference was observed between male and female students, and also there is no difference between male and female students by viewpoint of creativity ($p<0/03$, $f=60/81$). Therefore fourth hypothesis is confirmed. In other word with regard to average of groups of students, boys have more creativity than girls.

Discussion and conclusion

Base on findings obtained from this research there is a difference between male & female students by viewpoint of critical thinking, there fore the first hypothesis is confirmed. Obtained results are not consistent with findings of Shafiei et al (2001). Among reasons for lack of conformity in explanation of finding obtained from investigating present hypothesis is that changes that happened in situation of women in different social, cultural, political extents and...in society, caused their growth & development in

different areas. In spite of vast changes in life traditional-patterns and variation of thoughts, trends and information and life in different societies requires individuals-better-realization and in more extended areas, is the better cognition of world. And what is needed for that mutual understanding is peaceful exchanges, broad-mindedness and forbearance opposite views and evaluation and right judgment or critical thinking. what that all experts have consensus on it, is that critical thinking will have the best growth when discussion, exchange of thoughts and solving problems are current (Shaban, 2006) that this is increasing in society among this class because of vast presence of women in society, and raised their power of decision making as critical thinking. In fact, critical thinker must be able to make decision based on present evidences and implement the made decisions and if it necessary change his/her procedure (Malloch & Porter, 2006). Among other reasons is the lack of conformity of results related to this hypothesis to previous researches, and difference of society. Also the reasons for obtaining low rank by boys in critical thinking are lack of motivation and necessary commitment for completing the question airs.

Based on obtained findings from this research between boy and girl students by viewpoint of hard-making-effort, difference is considered. Therefore second hypothesis is confirmed. The results of this hypothesis is consistent with findings of Wito (1991), Kashani (1991), Dig and Wan (1998), Moutaz (1998), Eshmid and Lover (1989) Naderi & Husseini (2010) Moradi (2009). Among other reasons for conformity, we can state that persistence can be the cause of futher adjustment in stress in men than women. Another point is that persistence may have more relation with that

special oppositional pattern of men; thus men show more persistence than women (Wessy et al, 2000). Also based on research (Neress et al, 2003) persons who their psychological persistence is high, better can bear stress? In other words persistence is a basic feeling of control that provides the possibility of drawing and obtaining a list of useful strategies of "being able" to person (Kubassa, 1983). Also perhaps based on reasons of physiologic problems and existence of Manish hormones', almost men are more challengers, fighter with negative events and more controllers of themselves in stressful situation. And another important factor that seems to be creator of persistence in men, is the culture of society. Perhaps in our society, based on this reason men have more freedom and society provides social opportunity to them to have the back ground of more persistence but on women, society expect that they observe determined manners and traditional roles of their groups as more as possible, even if they have frequent talent in back grounds outside of limitation and this caused that women evaluate their ability less than really exist, as a result show psychological persistence. The result of this finding is consistent with researches of Dig & Wan (1989) and Mootaz (1989). Maker- hard- effort suppose every failure as a field for challenge & increasing the his/ her ability. Studies of Mededi(1990) and Wibe also show that persons with high making-hard- effort, against threats and failures show less physiologic variations (totally) and less blood pressure variations (in particulare) than persons with low making-hard- effort.

Based on finding obtained from this research. There is no difference between male & female student by viewpoint of achievement motivation, therefore, therefore the third hypothesis is rejected. This obtained results are consistent with finding of Anjella, Rianen, Nicklas and Bary (2007) Husseinpour et all (2007), Sepah Mansury (2007). In explanation of findings it can be said that, in years before difference and basic variations that is created in socity look, both genders have equal opportunity for growth and flowering of various talents. Human, without such motivation could not take any step beyond his limit at the binning of appearance, and access to such excellent transformations and it is in light of advancement trending persons that with time passing new thinks and new means are created and organize the life of human. In fact societies that their individuals have no motivation, even with excellent possibilities and natural suitable conditions little chances they have for advancement and promotion. Also economic growth of a society depends on achievement motivation of persons. In countries that parents have developed the achiement motivation in their children, in adult this

children will be development-seeker and help their economic growth.

On the basis of obtained findings from this research there is a difference between male & female students by view point of creativity, therefore fourth hypothesis is confirmed. This result is consistent with findings of Kuhen(1996), Sherifi & Davery (2009) and shams Esphand Abadi. Findings of present research indicate that it is a historic fact that creative performance is shaped by men and women shares in great creativity was much lesser. This superiority can resulted from limitation applied on women during history. Boys, because of enjoyment from more freedom in home and society and also their special personality characteristics and also with possibilities that is provided to them by family & society they can easily show their creativity but view of family and society toward role of girls and also because of special physical and affective condition that girls have and views and their comments cause that some limitation be applied to them to not be able to appeared their talents and creativity easily and this factor caused that boy be introduced more creative than girls in many researches (Agahi Esfahani et al, 2001). These differences are adoptive not inherent and when women enter a larger life, these differences will be lost apparently. Also environmental factors affect creativity of women and men by different manners. For many women, demonstration of creativity by factors like training and education, cultural norms, lack of social support, traditional expectation, gender, is limited. In men, there is balance between creative identity and parental experience but in women there is contradiction between these two roles. Men as father keep a creative space for themselves while women for family request relinquish such space (Shams Esfand abadi, 2005).

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