



Studying the Role of Virtual Social Networks' Usage Amount in the Students' Creativity

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Abstract: *The aim of this study was to compare the creativity of students between the different groups of users in the virtual social networks. The methodology of the research was cross-sectional and comparative and collecting data is a kind of survey research. The statistical society of this study consisted of all the students who studied in Tehran Science and Research University in academic years 2016- 2017. The available sampling method in this research was 200 individuals. The hypotheses of the research have been studied by using statistical methods of ANOVA. The descriptive results and the analysis of variance totally showed that the creativity of students who have the moderate activity in the virtual network (Group 2 and 3) were more than the students with extreme activity (Group 4) or with too little activity (Group 1). As a result, it can be said that the optimal usage and the amount of moderate time in the virtual social network can have a positive effect on the students' creativity; but the extreme usage of these networks causes to reduce the creativity.*

Key Words: *Social Networks, Mobile, Creativity, Telegram*

INTRODUCTION

Virtual social networks are new generation of Internet Web Sites. On these Web sites, the internet users gather around a common axis as virtual and consist of online communities. Social Networks, due to their kind of activities have other facilities in their options such as Internet newsreaders, online games, and the ability to upload videos and computer files and communicating with other personal media (Ghasemzadeh, 2011).

Mobile is one of the most popular communication tools between the individuals and one of the advanced communication technologies of the new era in the wireless communication. This tool provides an opportunity for voice calls, short message service, multimedia messaging service, live interview, games, Bluetooth, photography, shooting, music, GPRS, all sorts of educational software, and Internet news, e-books, business and banking services easily and cause to facilitate the human beings' communications. During the recent ten years, the most changes in the field of cell phones is in sending a message, as far as many applications provide the users sending kinds of file with no charge and only by connecting to the internet (Church & Oliveira, 2013). Some of these messaging programs are WhatsApp, Viber, Line, Nim Buzz, Wechat, BBM, Tango, Bee Talk, Kakao talk and so on. Social media and social networking tools include software, such as Viber and WhatsApp. These are one of the main factors in today's digital world (Underwood, 2009; Yeboali; Ewur, 2014).

In this regard, some individuals use the social networks a lot, so it affects a person's all the days of his life. These individuals affiliate to the social networks (Bott & Spillius, 2014). Individuals who are dependent on virtual social networks, it is possible that in some sorts of the psychological and social moods be different with individuals who are not dependent on these networks; the human beings' today's lives have been experiencing transformation compared with centuries and millennia prior. This kind of life demands certain skills because of the complexity of educational, social, economic and cultural, such as high level thinking (Miri, David & Uri, 2007).

One of the aspects of high-level thinking is creative thinking. Conceptual creativity associated with the differences in the individuals. This concept has invented in order to explain why some individuals have a greater ability to invent new solutions to the problems and issues. Today, the psychologists' belief is that the creativity is not innate or inherent, but it can be acquisitive. Through training, it can be taught to children to think the unusual solutions, and through divergent thinking reviews their problems and reaches to the proper solutions (Parsa Mansh and Sobhi Gharamaleki, 2013). Yet, the creativity has many definitions. Stranberg (2001, quoting from Agahi Esfahani et al, 2003) believes that the creativity is combination of initiative power, flexibility and sensitivity against the opinions that enables the individual to think about productive results, which its outcome is personal satisfaction and the pleasure of others. However, now many researchers have reached to the unit definition of the creativity: Creativity means the creation of new and useful ideas or solutions (Motil & Philipi, 2014; Amabil, 1988, quoted from Chen et al, 2013; Zimrer & Oscarbork, 2008, quoted from Antonio et al., 2014). In the field of ingredients and components of the creativity, as well as some researches are in progress. For example, Amabil (1988, quoted from Chen et al, 2013) has divided the creativity into three components: specialized knowledge, innovative thinking skills, and motivation. However, Torrance and Goff (1989, quotes from Abedi, 1993) know that the creativity consists of four main operating briefly:

- 1) Fluency means the talent of producing abundant ideas.
- 2) Originality means the talent of producing exquisite, unusual, and fresh ideas.
- 3) Flexibility means the talent of producing ideas or very diverse methods.
- 4) Elaboration means the talent of attention to details.

Many researches have shown that the creativity in human beings can be developed and have considered more as an acquisition talent than as an innate talent (Torrance, 1988). In addition, the reports indicate that the environments based on information and communication technology causes to develop the creativity (Zangeneh, Mousavi, and Badali, 2013), the social networks have been chosen because the fastest way and characteristic of the Web environment expands in form of growing. Porter (2008) states that the characteristics of the network make to facilitate the process of subscription. As well as the social network provides other services, such as permit the individuals to introduce themselves to others in form of virtual, development of users' networks, communicate with others, and maintain this relationship (Vassileva, 2008). The use of social networks is very developed and for users have advantages, while a few authors and researchers discovered that there are many social networks created based on specific needs (Anderson, 2007). Recent trends in the educational environment use the social network as the transmission of knowledge. In the educational environment, the social network can have advantages in conjunction with the civil society and have implications for training (Green Howe, 2011).

Even though social networks have some positive consequences such as developing creativity (Ratten, 2017; the Ram, Liu & Koronois, 2016; Yu et al, 2015) communicate with friends and family (Brown, 2011), critical thinking development (Alizadeh and Razavi, 2015). It may be possible that the users of the social network use them to find a job, join a group, supporters' page, the expression of opinions, the general discussion page, creation the commerce of network and Internet (Parter, 2008; Vasil, 2008). Nevertheless, some researches also focus on the negative aspects of it, such as sleep disturbances, anxiety and worry and divorce.

With regard to what was said and according to the new researches (Ram, Liu and Koronois, 2016; Yu and Pang, 2016), it is reported that despite the increasing importance of the virtual social networks, little researches have done in this field and there is a vacuum in this field. Therefore, in this study, in order to resolve the research gap, the main issue is studying the role of the virtual social network on students' creativity.

Research Methodology

The methodology of this study is a kind of cross-sectional, and comparative and collecting data is a kind of survey. Given that, the researches of kermanshahi (2015) and Gohari (2016) reported that the users of virtual networks could have divided into four groups according to the amount of usage. In this study, as well as the number of groups will be four groups that include:

Table 1, Participating Groups in the Research

Group 1	The individuals do not use the social networks, or use less than 1 hour.
Group 2	The individuals use the social networks daily for 1 to 3 hours.
Group 3	The individuals use the social networks daily for 3 to 5 hours.
Group 4	The individuals use the social networks daily more than 5 hours.

The statistical society of this study consists of all the college students of Tehran Science and Research University in the academic year of 2016-2017. The available sampling method in this research was 200 individuals. In this sampling, it was tried to be used the both active groups in social networks and inactive social networks (in this research the social networks are Viber, Line, Telegram, WhatsApp). In this study, the researcher has provided them to the students of Tehran Science and Research University after setting out the questionnaires, asked the students to answer the questionnaires. Then, the questionnaires have analyzed by using the SPSS software and ANOVA test and finally the research hypothesis have evaluated.

Research Tools:

The Findings of the Research:

In the present study, 200 students were attended which 36 individuals in the group 1, 61 individuals in the group 2, 68 individuals in the group 3 and 35 individuals in the group 4. The average of creativity in the group 1 was 130/47 with the standard deviation of 12/41 and as well as the average creativity of the group 2 was 145/06 with the standard deviation of 13/74. The average creativity in the group 3 was 141/98 with the standard deviation of 11/89, as well as the average creativity in the group 4 was 141/98 with the standard deviation of 14/47.

Table 2. The results of one-way variance analysis to compare the creativity and its dimensions among the research groups

Variables		Sum of Squares	df	Average of Squares	F	Significance Level
Fluency	Intergroup	1004/12	3	348/722	3/99	0/003
	Inside Group	786/82	197	70/890		
	Total	8214/90	200			
Elaboration	Intergroup	512/25	3	181/122	6/03	0/000
	Inside Group	2773/41	197	24/986		
	Total	3514/70	200			
Originality	Intergroup	272/94	3	90/982	3/985	0/004

	Inside Group	3383/22	197	30/480		
	Total	3656/17	200			
Flexibility	Intergroup	59/70	3	20/579	1/031	0/382
	Inside Group	2216/56	197	19/969		
	Total	2298/20	200			
Creativity	Intergroup	5512/22	3	1737/420	70/256	0/000
	Inside Group	2564/22	197	241/074		
	Total	31861/03	200			

As it is shown in this table, the sum of squares of the creativity intergroup is 5512/22 that leads to the amount of F 70/256, this amount of F at the level of one percent is significant. A sum of squares of fluency dimension is 1004/12 leads to the amount of F 3/99, which is significant at the level of one percent. The elaboration dimension is 512/25, which leads to the amount of F 6/03 that is significant at the level of one percent. Also, the sum of squares of originality dimension is 272/94 which leads to the amount of F 3/98 that is significant at the level of five percent. But, the sum of squares of flexibility dimension is 59/70 which leads to the amount of F 1/03 that is not significant statistically.

To be shown whether there are significant differences between the four groups (group 1 are not in a social network or are less than an hour. Group 2 are active at social networks daily 1 to 2 hours, group 3 are active daily 3 to 5 hours and group 4 were students who were busy on social networks more than 5 hours) in their creativity and four dimensions? We used Post Hoc test; the one that was used in this study was Tukey test which it became clear that the groups 2 and 3 have the more creativity than students who are not active or less than an hour (Group 1) and group 4 (students who were busy more than 5 hours at social networks). But, it has not been seen a significant differences in creativity and its four dimensions between groups 2 and 3. The results of Tukey test for creativity as the main dimension are given in the following table.

Table 3, The multiple comparisons by using the creativity Tukey test in the studied study

Group (I)	Group (J)	The Mean Difference	Standard Deviation Error	Significance Level
1	2	-5/22	2/39	0/002
	3	-7/53	2/33	0/001
	4	-3/35	2/69	0/010

2	1	5/22	2/39	0/002
	3	-2/30	2/01	0/660
	4	-5/13	2/41	0/003
3	1	7/53	2/33	0/001
	2	2/30	2/01	0/660
	4	-8/82	2/36	0/001
4	1	-3/35	2/69	0/10
	2	-5/13	2/14	0/003
	3	8/82	-2/36	0/004

Discussion and Conclusion

Today we look on the new revolutions in the aspects of information, searching and communication in cyberspace and virtual reality and now the communications' revolution turns to the revolution of informatics. Today's world is the world of change, the transformation of production and exchange of information, which the social networks have a significant role as one of the information and communication technology systems. As well as the community needs the creative individuals in order to move along with these changes. Because of the importance of this issue, the present study has done by the aim of comparing the creativity of students in the different groups of students who were the users of the virtual social networks.

In order to study the hypothesis of the research (there is a difference in creativity between different groups of students who are the users of the virtual social networks), due to the comparison of more than two groups, the variance analysis (ANOVA) has been used. The results of this test totally showed that the creativity of students who have moderate activity in the virtual networks (Group 2 and 3) are more than students who have extreme activities (Group 4) or have too little activity (Group 1). In other words, to some extent, the use of the virtual social networks can have a positive impact on the students' creativity, but if you use more than 4 hours a day, it has a negative impact on creativity and reduce the creative thinking power of the students. Studying the creative components also indicated that the virtual social networks usage has a positive impact on three dimensions of creativity (elaboration, originality, and fluency). However, it does not have a significant impact on flexibility dimension.

The results of this study were align with the researches of Rotten (2017), Ram, Liu and Koronois (2016), Alizadeh and Razavi (2015), Salehi, Gholtash, Azad Mehr (2010), Zangeneh, Mousavi and Badali (2013), Brokidefrent (2005), Noytim (2010).

The findings of Rotten' researches (2017) showed that the growth of creativity in social media to large extent depends on characteristics of personality and the situation of individuals. Social networks provide platform for users' creativity. Ram, Liu, and Koronois (2016) showed that by using the media and social networks, strategies can be used that causes to increase creativity and innovation among the users of these technologies. Saleki and Mashhadi (2015) also showed that the optimized usage of social networks can have a positive impact on developing the users' creative thinking power; also Salehi et al. (2010) showed that teachers who use information and communication technology have a higher level of creativity and innovation than the teachers who do not use and vice versa. By explaining the results (which align with the results of this study), they stated that using the variety and new skills of information and communication technology in today's world, and millions of graphics software, educational, researches; the innovation and creativity have increased in teachers who use information and communication technology. The teachers' creativity and innovation without new technologies, including information and communication technology does not seem so logical. In this research, as well as active students on social networks can improve their creativity power by using different communication methods with different graphics and messages. Zare Zadeh and Kadivar also showed that the students who are users of Internet have more creativity than students who are not users.

In explaining the overall results of the hypothesis of the study, it can be said that the social networks are a virtual environment where the users have freedom of speech and they can share thoughts, opinions,

personal notes, articles, and photographs, whatever they like to be read by others. In the world of virtual networks, the reader has possibility of writing like a writer, and can leave their comments for the author of the post, so the one-sided relationship disappears between a writer and a reader and they can discuss and associate with others in their discussion. Social network is one of the two Web tools and free interactive media, which any of the users can provide their experiences and knowledge to each other. This interactive characteristic of the social networks can increase the students' creativity.

Any research faces with limitations, it included as following:

- Due to the use of available sampling method in extension of the results, there should be caution.
- Do not control the demographic, economic, and social variables

According to the limitations and the findings of the research, the following proposals can be arises:

- ✓ According to the availability of the sampling method in this research, it is recommended that to use random sampling method in future researches in order to better generalize the results.
- ✓ Using other tools, such as interviews in order to collect information
- ✓ Evaluating the emotional relationships in terms of considering other individuals and social variables
- ✓ Given that the relationships between variables in the present study have been studied, it is recommended to do future researches based on interventional procedures to reduce the increasing creativity and happiness in social networks users.

Resources

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