

The Moderating Role of Individual Differences on the Relationship between Facebook Intensity and University Student Academic Performance

Mohamed Idries Ahmed^{1&2} Che Su Mustaffa²

1. Department of Media, Sirte University, Libya

2. Dept. of Communication, Sch. of Multimedia Technology and Communication, Universiti Utara Malaysia

Abstract

There has been an evidence of poor academic performance among universities students and among the attributing factors include Facebook intensity. Although, the influence of Facebook intensity on students' academic performance has been inconsistent and inclusion of a moderating variable was suggested by previous studies. Therefore, this study was carried out to examine the moderating role of individual differences on the relationship between Facebook intensity and students' academic performance. This study utilized quantitative survey method to gather data from 455 universities' students from Central region of Libya selected through a systematic random sampling strategy. The statistical result shows that there is a moderate level of Facebook intensity, individual differences and students' academic performance. The findings shows that Facebook intensity are significantly related to students' academic performance and individual differences significantly moderates the relationship between Facebook intensity and academic performance. Therefore, it was concluded that for university system to enhance student academic performance, the role of facebook intensity and individual differences among student is very paramount.

Keywords: Facebook intensity, individual differences, academic performance, moderating role

1. Introduction

It is no more deniable that social networking sites on the internet are exacting influence in the different areas of human lives. In the area of education and entertainment, social networks have assumed major tools for finding areas of common interest which are natural features of human life (Al-Rahmi & Othman, 2013). Scholars of education and the new media have maintained two perspectives about the role of the internet-based media of social networking. One perspective holds the view that social networks are tools of supporting activities that are considered relevant to academic achievement of youths. On the other hand, some scholars insist that social network cultivates in the users, particularly students; bad behaviours and poor time management (Burke, Kraut, & Marlow; 2011).

An important growing activity that has formed a significant aspect of university students' life is their socialization through the Internet (Gemmill & Peterson, 2006). These youth are the largest proportion of population that use computer and Internet intensively mainly for various purposes, in which case, about 46% use them to complete their school assignments, 36% employ them either for e-mail or instant messaging or both, while 38% of these youth use computer and Internet to play computer games (DeBell & Chapman, 2006). In contemporary society, social-networking sites are the latest online instrument of communication that provides the user opportunity to create profile and to connect with and relate to friends and family in their networks (Boyd & Ellison, 2008).

Online Social networking sites (OSNs) such as Facebook, Plurk, LinkedIn, Orkut, MySpace, Twitter, YouTube, Skype and Blog have realized notable popularity in the exchange of different information and in communicating with various cultures worldwide. Notably, OSNs are internet communities based on memberships that allow users to present themselves, navigate through a wide variety of social networks, and build or preserve connections to others (Sheng, Hsu & Wu, 2011). While there is relative abundance of scholarly work focusing on relationship between social networking sites (SNS) and political uprising like the Arab springs (Beer, 2008); there is dearth of study on how the youths use the Facebook for academic purposes.

However, empirical support for this perspectives, have mainly proliferates in countries where internet culture is well grounded with little study in society with less use of the internet. To put it differently, SNSs are creating a buzz and becoming the centre of discussion in the communications arena but the their use in emerging areas where the penetration of social networking sites is just becoming noticeable has attracted little scholar attention. Some scholars like Kaplan-Leiserson (2000) contend that the younger generation is attracted to a virtual environment because it provides freedom and independence as well as how well it fits with their technical skills. Following that, there exists a need for more studies to be conducted in order to get a better understanding of the way social networks are being used by people, particularly the young in this transitional Arabic country.

Literature on media studies have indicated the relationship between individual differences and media usage, Burke and Kraut (2011) observed that few studies working on the area of social network sites account for

their impact. Among the several factors of individual differences, this study focuses on self-esteem and social communication skills. Specifically, the study investigates the moderating influence of individual differences (social esteem and communication) on the relationship between Facebook intensity, community factors on one hand and academic performance and social capital on the other hand. While use of Facebook and community factors may have both positive and negative outcomes on academic performance.

Research Questions

In order to achieve the objectives of this study, the following research questions were raised:

- i. What is the relationship between Facebook intensity and students' academic performance?
- ii. Does individual differences significantly moderate the relationship between Facebook intensity and students' academic performance?

Research Hypothesis

To answer the research questions raised for this study, two main hypotheses and three operational hypotheses were formulated:

H1: Facebook intensity is significantly related to students' academic performance

H1a: Facebook emotion is significantly related to academic performance

H1b: Facebook friend is significantly related to academic performance

H1c: Facebook time is significantly related to academic performance

H2: Individual differences significantly mediate the relationship between Facebook intensity and students' academic performance

2. Literature Reviewed

2.1 Facebook Intensity and Academic Performance

Poor academic performance of Facebook users has just recently become chided as a possible Internet disorder. In a story for the Atlantic magazine, Carr (2008) asked if the Internet and Google in particular are causing a decline in our intelligence level. According to him, while we improve our multitasking skills by using the Internet, we gravitate more towards less educational, more entertaining material while slowly decreasing our ability to concentrate on things like a research article. Many people prefer to just Google for something and receive information that lacks depth unlike reading a book on a particular topic.

Youth have been identified to be among the most creative users of social network sites and are vulnerable to its consequences. Researchers in recent time in this field have found that youth spend a substantive segment of their daily life connecting or relating via social media. Following these scenarios, there have been contentions and questions put up about the consequences of the social networking sites on youth development (Ahn, 2011) and on college student academic performance (Barratt, Hendrickson, Stephens, & Torres, 2005).

According to Khan (2009), Facebook users often time experience poor performance academically. Similarly, Englander, Terregrossa and Wang (2010) suggested that the negative implications of social media on students' academic performance greatly outweighs its advantages. Consequently, internet addiction has been on the rise along with internet usage within the last couple of decades. Nalwa and Anand (2003) said that addicted users tend to prioritise their time on the internet over their personal and professional responsibilities which in the end causes their academic performance to decline. According to Karpinski (2009), Facebook users devoted lesser time to their studies in comparison to nonusers did and subsequently had lower GPAs. Karpinski and Duberstein (2009) also pointed out that while every generation has its own unique distractions, Facebook remains a major distraction of the current generation. According to Kubey, Lavin, and Barrows (2001), the use of multiple online technologies such as internet sites and forums is correlated with decreased academic performance and increased internet dependency.

More so, a glimpse at popular social networking sites pages show the constant expression of many students' worry for being unable to pay proper attention to their academic works as they are distracted by social activities on Facebook (Karpinski & Duberstein, 2009). Time devoted by students for studying also reduces considerably ranging from 1 to 5 hours weekly as against the 11 hours for Facebook nonusers. This difference probably indicates wrong focus of students' attention and interruption brought about by their concurrent, multitasking performance (DeLeeuw & Mayer, 2008; Paas, Renkl, & Sweller, 2003; Paas, Tuovinen, & Tabbers, et al. 2003)

During multitasking, students' engagement in some activities that are not related to one another reduces their ability to understand fully the knowledge being imparted to them (Wood et al., 2012). With the availability of access to network site such as Facebook from various devices time to time, students make use of this platform primarily for leisure (Rouis, 2012). As students use this platform, their time seems constricted between involvement in social and classroom activities, which immerse their cognitive load and prevents them from concentration and organizing mental effort to pay attention to their academic works (Rouis, 2012).

Social media use among university students is increasing. It can be used to expand distributed learning among users by providing a virtual environment for learning as well as promoting the formation of virtual

communities (Hussain, 2005). University students can communicate with other members of the virtual communities freely. From these virtual environments, students share information, knowledge, study experiences, research projects, as well as job opportunities with each other. Out of all the virtual communities, Facebook appears to be at the top of the list as the favourite means for students to interact with each other (Mack et al, 2007).

The world today provides open access to almost anything you can think of via the Internet. The younger generation who grew up in this information age is called the Net Generation and they seem incline to seek information by using modern technologies. And while social media has education purposes that can be applied to all levels of schooling, university students appear to be more adept at utilizing it (Davis et al, 2011). Social media can thus be seen to facilitate communication as well as being used in the classroom in higher institutions of learning (Roblyer et al, 2010). In this regard, Madge et al (2009) advocated the use of social media in the classroom to enhance educational access and students' academic performance.

In Kenya and Libya, Ballera, Lukandu, and Radwan (2013) analysed how student interaction on public social network media has an impact on their learning process through three aspects which are using social media to interact, socialize, and collaborate during problem solving, using social media as an e-learning tool and encouraging non-native English students to express their ideas and fill the gap in communication, and analyzing learners' interaction and its relation to group and individual performances. The results show that there is an increase on the cognitive level of students at different level, and that it helps deepen meaning, lessen pressure, and increase communication and socialization. Therefore, the use of social media among African and Libyan students can help improve academic performance.

2.2 Moderating Influence of Individual Differences (social communication skills and self-esteem)

Literature on media studies have indicated the relationship between individual differences and media usage, Burke and Kraut (2011) observed that few studies working on the area of social network sites account for the impact of individual differences. Among the several factors of individual differences, this study focuses on social esteem and communication skills. Specifically, the study investigates the moderation influence of social esteem and communication skills on the relationship between Facebook intensity and students' academic performance. While use of Facebook may have both positive and negatives outcome on academic performance, people with low self-esteem and social communication skills contribute to how effective is the Facebook use on student academic performance. Because the internet uses have been found to reduce social boundaries, individuals with low communication skilled have the tendencies to embrace internet-based social networking sites.

Social Communication skills is needed for sustainable relationship in both online and offline relationship situation. Burke, Kraut and Marlow assert that social communication skill requires individual to be sensitive to the clues coming from the other parties involved in communication. This means the communicator is able to recognize nonverbal signals that tell you the disposition of the receiver. For example knowing when the person is getting bored. Social networking mimics the offline communication situation, thus exacting similar condition for interaction among those engaged in relationships. The implication of the reality is that it is not enough to engage in Facebook intensity or participation in online chat forum or groups with the hope of using them to improve students' academic performance; the level of social communication skills exhibit will moderate the sustainability.

Online communication is multimedia where video, text and audio can be combined but they offered little amount of social cues. Similarly, online communication lacks richness and can be ambiguous in meaning. People scoring high on different personality traits may exhibit unique preferences for online expression. It has been proposed that those who score high on Introversion and Neuroticism can better express their "true self" through Internet communication while those who score high on Extraversion find an expression of self-more in face-to-face interaction (Amichai-Hamburger et al., 2002). Evidence though has not fully supported this: Extraversion was shown to positively correlate with using the Internet to maintain both remote and face-to-face friendships (Tosun & Lajunen, 2010) and was positively related.

Related to this is the personal trait of either been an introvert or extrovert which contribute to what and how ones uses the internet. The personal trait have been found to moderate internet activities such as Facebook intensity (Burke & Kraut, 2011). Findings of study on the role of personal trait indicate that students with introvert traits tend to spend more time online when compared to their extroverted counterparts. In addition to being less agreeable and less conscientious personality, the introvert maintains fewer social obligations thus freeing up more time to spend online. In contrast, the extrovert are socially conscious, engage in face-to-face interactions and spend more of their discretionary time chatting and networking both offline and online. These social activities tend to reduce the time the extrovert spends on the social network. For students in an environment like a university campus, this two personal trait will manifest differently when go online. The result will likely be a deferring academic performance and building social capital. The impact of personality trait on

online activities can also be seen on the sense of safety individuals exhibits in relation to online activities. For example, Caplan (2005) study reveals that persons with feeling of anxiety shows concern for self-preservation and thereby feel more comfortable interacting online. However, such lone rangers may be vulnerable to online predatory activities as well as leading to compulsive internet uses. (Livingstone, 2009; Caplan, 2005). Despite this possible negative outcome, person with anxiety still feel safer, more efficacious, confident and comfortable going online for socio-psychological satisfaction. The motivating factors for the introvert persons' of use online is the feeling that they can better express themselves better online, hence it holds the prospects for them to make relationship from online social network community. The implication of these personality traits can be numerous for various outcomes including academic performance and building social capital. However, this study is focusing on communication skills and self-esteem. These two traits have been found to moderate relationship between social media and academic performance, although with differing outcomes (Burke & Kraut, 2011; Caplan, 2005)

3. Methodology

This study adopted a questionnaire research approach with survey as the research method. The target population for this study is the 16,040 Libyan youth students who are studying at the selected universities in Libya. 500 respondents were selected using a proportionate-stratified random sampling techniques to select respondents from the colleges in all the sampled universities. The data were collected personally by the researchers.

There are three instrument for this study where each instrument are measuring each variable. However, some variables are multidimensional. These instrument are facebook intensity survey, individual differences measures and academic performance measures. All items of Facebook intensity comprising three dimensions viz-a-viz emotional factors to use Facebook, reaching out to friend on facebook and, time on Facebook adapted from Quan-Haase, Quan & Young (2010); Ahlam, & Lawrence, (2008) and Sponcil and Gitimu,(2012). Individual differences where measures in this study in terms of social communication skills and Self-Esteem. The items for social communication skills were adapted from van Deursen, Helsper and Eynon (2014) while the seven items from Rosenberg (1989) were used to measure self-esteem. All responses for all the items in the questionnaire were also tailored on a five-point Likert scale ranging from strongly disagree to strongly agree and were validated by Ahmed and Mustaffa (2015).

The data collected were analyze using descriptive and inferential statistics with SPSS version 20. Research question one was analyze using a correlational statistics why research question two was analyze using a multiple regression analyzed.

4. Results

4.1 Profile of Respondents

Analysis of sample by gender revealed that a higher percentage of them were male. In terms of percentage, 63 % (n = 297) of the sample were male while 37% (n = 178) were female. Out of 475 students that respondent to the questionnaire, 44% of them are in final year, 24 % are in their third year of study, 19% are in second year while 12% are in their first year. The respondents age fall within the range 18 – 22 years where 297 (63%) are between 18-20 years old while 178 (37%) of them are within the age bracket 20 -22.

The analysis of the faculty of study the respondents belong indicates that the respondents are fairly evenly across discipline. %59 respondents representing 12% are pursuing courses in Science/Engineering/Agric, 57 representing 12% also doing courses in business/economics. Furthermore, 90 of the respondents representing 19% are reading courses in Arts/law/humanity. However, majority of the respondents 33% (n=158) are those in medicine/medical technology.

It is evident from the respondents that all of them have facebook/twitter account and large portion of them (92%) have access to their account at home. However, 92% of them have less than 50 facebook friends and 42% of such friends are their Acquaintances while 20% of them are in the same college and the rest are either old friends or siblings.

4.2 Analysis of the Research Questions

Research Question 1: what is the relationship between facebook intensity and student academic performance?

H1: facebook intensity is significantly related to studets' academic performance

The result of the Pearson Moment Correlation test conducted to examine relationship between Face book Intensity and academic performance as contained in Table 1 shows that there is significant and positive relationship between Face book intensity and academic performance (r =.121. p <.010.). It shows that high level of Face book intensity is associated with high level of academic performance.

Table 1
 Relationship between Face book intensity and academic performance

Variable	Mean	SD	DF	rvalue	P value	Decision
Facebook intensity	3.34	.660	453	.121	.010	H1 Accepted
Academic performance	3.62	.640				

H1a: Face book emotion is significantly related to academic performance

H1b: Facebook friend is significantly related to academic performance

H1c: Facebook time is significantly related to academic performance

Analysis of the correlation between the individual variable that make up the Face book Intensity construct and the academic performance as dependent variables indicates that all of them have positive relationship with the academic performance. Face book emotion has weak yet significant ($r = .02, p > 0.05$) with academic performance, similarly Face book Time has weak ($r = .019, p < 0.05$) relationship with academic performance while Face book friends has medium ($r = .23, p < 0.01$) relationship with academic performance. Detail of the correlation between each of the variables is contained in Table 2. Therefore, H1b and H1c are supported while H1a is not accepted.

Table 2

Relationship between Face book intensity components and students' academic performance

Variable	Facebook Emotion	Facebook Time	Facebook Friends
Students' Academic Performance	.019	.095*	.233**

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

* Correlation is significant at the 0.05 level (2-tailed).

Research Question 2: Do the individual differences moderate the relationship between Face book intensity, and academic performance?

H2: individual differences significantly mediate the relationship between facebook intensity and students' academic performance

Table 3

Moderation role of individual differences on the relationship between Face book Intensity and academic performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.118 ^a	.014	.012	3.268	.014	6.427	1	453	.012
2	.121 ^b	.015	.010	3.271	.001	.251	1	452	.617

a. Predictors: (Constant), FBI

b. Predictors: (Constant), FBI, FBI_x_Diff

The output of the regression analysis as shown in Table 3 shows that there is small change in R square in model 2 (R^2 change .001, . in other words the interaction of individual differences and Face book intensity did not account for significant value in the relationship between Face book Intensity and academic performance. In the ANOVA model, the result was $F(2, 452) = 3.334, p < .037$).

Determination of Contribution of each Variable to the Final Equation

To determine the contribution of each of the variables to the final equation, the figures in Tables 4 provides summary of the result of all the variables entered. Table 3 shows that the interaction of individual differences and Face book intensity contributed small Beta =.121, $p = .617$. While Face book intensity contributed beta of .016, $p = .016$.

Table 4

Summary of the contribution of each Variable to the Final Equation

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
1 (Constant)	15.968	.925		17.254	.000
FBI	.034	.013	.118	2.535	.012
2 (Constant)	16.067	.947		16.963	.000
FBI	.033	.013	.114	2.416	.016
FBI_x_Diff	-.061	.121	-.024	-5.01	.617

Discussion and conclusion

The first Objective was to examine the relationship between Face book intensity (emotional connection to Face

book, Face book friends, Face book Time) and academic performance. Based on this objective, a general hypothesis was formulated to measure the relationship between Face book Intensity in terms of emotional attachment to face book, number of friends on Face book and time spent on Face book and the academic performance of the respondents. Generally, the findings confirm that there is significant relationship between Face book intensity and academic performance among the students. A summary of the model indicate that collectively the elements of Face book Intensity (emotion, time and friends) explain a significant amount of the variance in the value of academic performance of the respondents. But in analyzing the contributions of each of the dimensions to the relationship, the findings indicate that such significant relationship is either positive or negative. Therefore, to determine the contribution of the each of the independent variables to the result, an analysis of the coefficient output was carried out.

The test of these set of hypotheses based on the dimensions of Face book Intensity reveals that Face book emotional connection has no significant influence on academic performance of the university students. Similarly, the time respondents spent on Face book also makes no significant influence on academic performance of the university students. A slightly different finding was revealed for the influence of the number of friends the respondents have on Face book. The result shows that Face book Friends has significant negative influence on academic performance of the university students. This trend of result is an indication that at the level of individual dimensions that makes up the Face book Intensity, they did not contribute to positive outcome for the students in terms of academic performance of the university students. This finding is line with the findings from a study by Negussie and Ketema (2014) on the relationship between time spent on face book and the academic performance of students. Their finding reveals that time spent on Face book did not have significant positive influence on the students' Grade point Average. Similarly, the study of Ahmed and Qazi, (2011) conducted among university students in Pakistan shows that the time spent on social networking sites did not have significant relationship on GPA of the students.

In another study, Thuseethan and Kuhanesan, (2014), examined the influence of Face book in academic performance of students with sample selected from Sri Lankan University Students. Their findings indicated that time and the frequency of using Face book significantly predicts academic performance of university students although this may differ significantly with heavy or frequent users receiving low grades, when compared to light users. So, how does this relate to your study? Need to discuss about theory also

Two factors of individual differences which comprises of self-esteem and communication skills were the moderating variables that were involved in the model of this study. The second objective is to determine the moderating effect of individual differences on the relationship between Face book intensity and the academic performance of students in university campus. In line with the objective of testing the moderating effects of individual differences (social communication skills and self-esteem), the hypothesis states that Individual difference moderates the relationship between Face book Intensity and Academic Performance. This hypothesis was not accepted. As the result of the regression test indicates, the interaction of the individual differences did not produce significant moderation on the relationship between Face book intensity and academic performance of the students. This implies that individual differences are not the essential interacting factor that can alter the direction of the relationship between Face book intensity of usage and the academic performance of the student.

Implications and conclusions

Face book has become important feature of living and social interaction for students especially in the university campus. The attempt of this study is to examine how individual differences moderate the relationship between Face book intensity and students' academic performance. The study has been able to show that Face books Intensity of usage have implications for students' academic performance and individual differences does not significantly influence the relationship between facebook intensity and students' academic performance.

This outcome will benefit university administrators in Libya into understanding the factors behind the Face book usage of the students. Policy that taps on the way students are using the Face book can be enacted so that Face book can be turned to advantage for the students' academic performance. Also, interacting with peers significantly contributed to academic performance of the students. This has potential of helping to understanding aspects of Face book usage. University administrator can deepen this tendency among the student with creative programmes that maximize the situation for enhanced growth of academic performance. Increased academic performance of student will ultimate benefit the university when their alumni become shining stars in the world of practice. Using all means to build these potentials for student is desirable policy option for the Libyan university.

References

- Al-rahmi, W., & Othman, M. (2013). The impact of social media use on academic performance among university students: A pilot study. *Journal of information systems research and innovation*, 4, 1-10.
- Ahlam, M., & Lawrence, R.F., (2008). Arab Americans' Motives for Using the Internet as a Functional Media

- Alternativeand Their Perceptions of U.S. Public Opinion.*Journal of Computer-Mediated Communication*, 13, 618–657.
- Astin, A. W. (1993). *What matters in college: Four critical years revisited*. San Francisco: Jossey-Bass.
- Beer, D. (2008). Social network(ing) sites.revisiting the story so far: A response to danahboyd& Nicole Ellison. *Journal of Computer-Mediated Communication*, 13(2), 516-529.
- Boyd, D. M., & Ellison, N. B. (2008). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13, 210–230.
- Bradburn, N., Sudman, S., & Wansink, B. (2004). *Asking questions: the definitive guide to questionnaire design*. San Francisco: Jossey-Bass.
- Clark, N., Lee, S., & Boyer, L. (2007). A place of their own: An exploratory study of college students' uses of facebook. Conference Papers –*InternationalCommunication Association*, 1.Retrieved from EBSCOhost.
- Coleman, J. S. (1988). Social capital in the creation of human capital.*American Journal of Sociology*, 94(supplement), 95-121.
- DeBell, M., & Chapman, C. (2006). *Computer and Internet use by students in 2003 (NCES 2006–065)*. US Department of Education. Washington, DC: NationalCenter for Education Statistics.
- DeCoster, J. (1998). *Overview of factor analysis*. Retrieved January 19,2007.
- DeFreitas, S. C., & Rinn, A. (2013). Academic Achievement in First Generation College Students: The Role of Academic Self Concept. *Journal of the Scholarship of Teaching and Learning*, 13(1), 57-67.
- Englehart, J. M. (2009). Teacher-student interaction.In L. J. Saha & A. G. Dworkin (Eds.), *International Handbook of Research on Teachers and Teaching*, 711-722. New York, NY: Springer Science+Business Media, LLC.
- Gemmill, E., & Peterson, M. (2006). Technology use among college students:Implications for student affairs professionals. *NASPA Journal*, 43, 280–300.
- Hair, J. F., Black, W.C., Babin, B.J., & Anderson, R.E. (2010). *Multivariate Data Analysis: A global perspective*. 7th, New York: Pearson.
- Hair, J.F., Black, W.C., Babin, J.B., & Anderson, R.E. (2009). *Multivariate Data Analysis (7thed)*.
- Hopkins, J.H. (2012), Can Facebook be an effective mechanism for generating growth and value in small businesses? *Journal of Systems and Information Technology*, 14(2), 131-141.
- Hutcheso, G.,& Sofroniou, N. (1999). *The multivariate social scientist: Introductory statistics using generalized linear models*. Thousand Oaks, CA: Sage Publications.
- 倭alpidou, M, Dan Costin, M.A., & Jessica M, B.A. (2011).The relationship between Facebook and the well-being of undergraduate college students. *Cyberpsychology, Behavior, and Social Networking*, 14(4). 183-189.
- Kesaraporn, W. (2011). Internet use and its impact on secondary school students in Chiang-Mai, Thailand. Thesis is presented in fulfillment of the requirements for the degree of Doctorof Philosophy, Edith Cowan University.
- Kuh, G. (2003). What we’re learning about student engagement from NSSE: Benchmarks for effective educational practices. *Change (March/April)*: 24-32.
- Lin, N. (1999). Building a network theory of social capital. *Connections*, 22 (1), 28-51.
- McNeal, Jr., R. B. (1995). Extracurricular activities and high school dropouts. *Sociology of Education*, 68(1), 62-81.
- Pascarella, E. T., & Terenzini, P. T. (1991). *How college affects students: Findings and insights from twenty years of research*. San Francisco: Jossey-Bass.
- Putnam, R. D. (2000). *Bowling Alone*. New York: Simon & Schuster.
- Quan-Haase, A. Quan.& Young, A. L. (2010), Uses and Gratifications of Social Media: A Comparison of Facebook and Instant Messaging. *Bulletin of Science, Technology & Society*, 30(5), 350–361.
- Rosenberg, M. (1989).*Society and the Adolescent Self-Image (Rev. ed.)*. Middletown, CT:Wesleyan University Press.
- Sponcil, M. & Gitimu, P. (2012).Use of social media by college students: Relationship to communication and self-concept. *Journal of Technology Research*, 4, 1-13.
- Tiffany A. Pempek, Yevdokiya A. Yermolayeva, Sandra L. Calvert. (2009), College students' social networking experiences on Facebook. *Journal of Applied Developmental Psychology*, 30, 227-238.
- Williams, D. (2006). On and off the ‘net: Scales for social capital in an online era. *Journal of Computer-Mediated Communication*, 11(2), article 11. Retrieved August 29, 2006 from<http://jcmc.indiana.edu/vol11/issue2/williams.html>
- Polit, D. F., & Beck, C. T. (2006) The content validity index: are you sure you know what's being reported? Critique and recommendations. *Research in nursing & health*, 29(5), 489-497.
- Elena Delgado-Rico; Hugo Carretero-Dios, Willibald Ruch Content validity evidences in test development: An

- applied perspective1 International Journal of Clinical and Health Psychology ISSN 1697-2600 print
ISSN 2174-0852 online 2012, Vol. 12, N° 3, pp. 449-460
- Bargh, J., McKenna, K., & Fitzsimons, G. (2002). Can you see the real me? Activation and expression of the "true self" on the Internet. *J. Social Issues*, 58(1), 33-48.
- Burke, M., Kraut, R., & Marlow, C. (2011, May). Social capital on Facebook: Differentiating uses and users. In *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 571-580). ACM.
- Burke, M., Kraut, R., Williams, D. (2010). Social use of computer-mediated communication by adults on the autism spectrum. *In Proc. CSCW 2010*:425-434.
- Ellison, N., Steinfield, C., & Lampe, C. (2007). The Benefits of Facebook" Friends:" Social Capital and College Students' Use of Online Social Network Sites. *JCMC*, 12(4), 143-1168.
- Oxford, R. L., & Ehrman, M. (1992). Second language research on individual differences. *Annual review of applied linguistics*, 13, 188-205.
- Kross, E., Verduyn, P., Demiralp, E., Park, J., Lee, D. S., Lin, N., & Ybarra, O. (2013). Facebook use predicts declines in subjective well-being in young adults. *PloS one*, 8(8), e69841.
- Jonassen, D. H., & Grabowski, B. L. (2012). *Handbook of individual differences, learning, and instruction*. New Jersey: Routledge.
- Sheng, M. L., Hsu, C. L., & Wu, C. C. (2011). The asymmetric effect of online social networking attribute-level performance. *Industrial Management & Data Systems*, 111(7), 1065-1086.