

Investigating Young Adults' Online Engagement and Self-Esteem

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Abstract— The aim of this study is to examine the relationship between Computer Mediated Communication (CMC) competency and online engagement and the impact of online engagement on young adults' self-esteem. Data were collected using questionnaires among university students. There were 404 respondents consisting of undergraduate and postgraduate students. The study found that motivation and knowledge have positive relationships with online engagement but self-efficacy has no relationship with online engagement. The influence of gender on the relationship between online engagement and self-esteem was analyzed. The result indicated that online engagement has no impact on young adults' self-esteem and the relationship between online engagement and self-esteem was not moderated by gender. These findings provided an understanding of the factors, which influence young adults' online engagement and the subsequent effect on their self-esteem.

Keywords— online engagement, social networking site, Facebook, computer-mediated communication, competency, self-esteem.

I. Introduction

Social Networking Site (SNS) is defined as a web-based service that allows individuals to construct a public or semi-public profile, articulate a list of other users with whom they share a connection and to view and traverse their list of connections and those made by others within the systems (Boyd and Ellison, 2007). The Pew Internet and American Life Project found that although 73% of teens between the ages of 12 and 17 use social media, the rate of social media use is even higher (83%) for young adults between the ages of 18 and 29 (Lenhart, Purcell, Smith and Zickuhr, 2010; Madden and Zickuhr, 2011).

Liu (2010) investigated students' use of different social media tools, their perceptions and attitudes towards these tools, and their preference of social networking groups. The results showed that the three top-used social media tools are Facebook, Wikipedia and YouTube; the top four reasons for using social media tools are for social engagement, direct communication, speed of feedback, and relationship building. This new phenomenon is already evident among society especially student, who are the heaviest users of these sites (Social Baker, 2013).

As reported by a social media analyst in June 2013, Facebook user in South East Asia nearly reach 11 million with Malaysia ranked 8th in Asia as one of the leading countries actively using Facebook Social Baker (2013). Furthermore, the statistic showed that among Malaysians, people ages of 18–24 (typically students) are the major users with a consumption rate of 33.1%. The study on SNS usage seeks to contribute towards the emerging research on the influence of young adults' online engagement, as well as an attempt to contribute towards a deeper understanding of the impact on self-esteem among young adults in Malaysia.

II. Literature Review

A. A model of Competency in CMC

CMC is becoming an important part of people's private and professional lives. However, most of the CMC theories only focus or describe on related phenomena and user behavior, while very few information or guide on what type of behaviors by means of CMC would be more effective and appropriate (Bubaš, 2001). The most comprehensive models that outline numerous factors of competency in CMC have been developed by Spitzberg (2001).

The CMC outcomes are linked with the level of competence in the CMC interactions of a person. The most common outcomes of competency in CMC interaction are appropriateness, effectiveness, co-orientation (understanding, accuracy and clarity), satisfaction, attractiveness and efficiency (Harrison and Rainer, 1996; Straus *et al.* 2001; Westmyer, DiCioccio and Rubin, 1998). Spitzberg (2004) stated that co-orientation refers to the degree of correspondence between a sender's intentions (or message content) and the interpretation by the receiver.

A skill is to develop the knowledge and motivation that determines the efficiency of CMC competency, within the restrictions in the context of communication, media and messages (Spitzberg, 2006; Spitzberg, 2011). Therefore, knowledge, motivation and skills are built upon each other that can affect the participant's attentiveness and expressiveness in a computer-supported collaborative learning environment (Sherblom, 2010). CMC was used in education to be more attractive in learning environments to encourage students' participation and become part of an active learning community (Sherblom, 2010; Sundararajan, 2009). Hence, it is important to understand the influences of each component in CMC on students' online engagement.

B. The Effect on Self-Esteem

Self-esteem is defined as being “the subjective evaluation a person makes and maintains about himself or herself and the extent of belief in their capability, worth and significance, which is conveyed through their attitudes and verbal behavior” (Wilson *et al.*, 2010). There is growing evidence that Internet use in general and SNS like Facebook, may be associated with a person’s sense of self-worth and other measures of psychosocial development. The relationship between Facebook use and bridging social capital was greater for low self-esteem students (Ellison *et al.*, 2007). The findings from Charles, Nicole and Cliff (2008) illustrates the stronger association between Facebook use and social capital for the lower self-esteem students compared to the higher self-esteem students.

C. The Role of Gender

Gender is one of the demographic variables that affect the use of social media due to the differences between males and females. Females are more likely than males to have personal profile on Facebook, but male tend to sustain a profile on LinkedIn (Lenhart *et al.*, 2010). Female were four to five times more favourable in using social networking site compared to male (Tufekci, 2008). Further research on gender and usage of SNS is required to better understand the effects on males and females on these sites.

III. Hypotheses Development

The hypotheses were derived based on two broad research questions summarized from review of literature of prior research. Hypotheses one, two and three were to examine the association between Computer Mediated Communication (CMC) competency factors on online engagement. Ross *et al.* (2009) measured three domains of CMC competency, which were motivation, knowledge and self-efficacy.

The findings (Ross *et al.*, 2009) showed that those individual with high motivation spends more time on Facebook. This result is also in line with Jang Hyun *et al.* (2010) and Orchard *et al.* (2014) studies. Hypothesis one was derived to examine the association between motivation competency on online engagement.

H₁: Motivation is positively related to online engagement.

The findings from previous studies (Eastin & LaRose, 2000; Fang, 1998; LaRose *et al.*, 2001) stated that the more knowledgeable, the more motivated the person will be in the use of CMC experience. Hypothesis two was derived to examine the association between knowledge competency on online engagement.

H₂: Knowledge is positively related to online engagement.

Yi and Hwang (2003) found that application-specific self-efficacy has a direct and greater effect on actual use above user intention to use the system. The finding is in line with Harsha (2007), Fang (1998) and LaRose *et al.* (2001). Hypothesis three was derived to examine the association between self-efficacy competency on online engagement.

H₃: Self-efficacy is positively related to online engagement.

In this study, the impact of online engagement on self-esteem was analyzed. Mehdizadeh (2010) stated that there is a negative correlation between self-esteem and time spent on Facebook. This is consistent with finding found by Kalpidou *et al.* (2011), Pettijohn *et al.* (2012), and Steinfield *et al.* (2008). Hypothesis four was derived to analyze the relationship between these two variables.

H₄: Online engagement is negatively related to self-esteem.

Study by Nicole *et al.* (2012) and Joinson (2008) stated that there is a correlation between gender and the usage of Facebook. These findings contradict with Mehdizadeh (2010), which stated that frequency of used, and investment in SNSs was not moderated by gender. Hypothesis five was developed to analyze the effect of gender and online engagement interaction on self-esteem.

H₅: Gender moderates the relationship between online engagement and self-esteem.

Based on the hypotheses, the following Figure 1 shows the research framework used in the study.

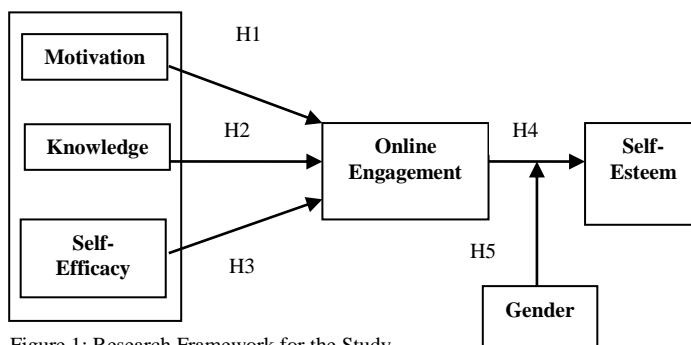


Figure 1: Research Framework for the Study

IV. Research Methodology

A. Sampling Design

The sample for this study is the undergraduate and postgraduate students of the University of Malaya. There are twelve faculties, two academies, five institutes and four centres in University of Malaya. There are 17,362 (local) and

3870 (international) undergraduate and postgraduate students enrolled in the university. Using the Stratified Random Sampling Technique, data were collected from the samples. A total of 500 questionnaires were distributed in the selected faculties. A total of 404 responses were received and used for analysis.

B. Data Collection Method

The study was conducted using questionnaires to collect the data from the respondents. The questionnaires consisted of four sections. The first section is the usage or Facebook and online engagement. This section consists of five statements and the respondent need to indicate one answer in the form of 5-point Likert scale format (1 = strongly disagree, 5 = strongly agree). The usage or Facebook engagement was adapted from Ross *et al.* (2009) and Yu *et al.* (2010). The second section is about CMC competency factor on Facebook. Competency was measured by motivation, knowledge and self-efficacy referring to the domain of Computer-Mediated Communication Model (CMC). The items were rated with 5-Likert scale. All the items and scales were adapted from Spitzberg (2006). The third section contained information on the student's self-esteem level, which consists of five items measured using a 5-point Likert scale. In this case, self-esteem was adapted from Stenfield *et al.* (2008) and Yu *et al.* (2010), which measure the personal feeling of believe in self-worth, capabilities and significance. The last section is about respondent background including gender, ethnic, age, number of friends and hours spent on Facebook daily.

v. Results

A. Demographic Profile

The following Table I summarizes the demographic profile of the respondents from the survey.

TABLE I. DEMOGRAPHIC PROFILE

	Frequency	Percent	Cumulative %
Gender			
Male	185	45.8	45.8
Female	219	54.2	100
Ethnicity			
Malay	201	49.8	49.8
Chinese	124	30.7	80.4
Indian	16	4	84.4
Others	63	15.6	100.00
Age			
20-24	297	73.5	73.5
25-29	39	9.7	83.2
30-34	30	7.4	90.6
35-40	22	5.4	96
41 and above	16	4	100
Friends			
< than 100	44	10.9	10.9
101 -200	49	12.1	23
201-300	45	11.1	34.2
301-400	42	10.4	44.6
401-500	37	9.2	53.7
> than 500	187	46.3	100

B. Factor Analysis

Factor analysis was used to ensure that CMC competency is represented by distinct constructs. Table II illustrated the main portions of requirements for Exploratory Factor Analysis (EFA) in which it is tied up with sampling adequacy and the structure of correlation matrix. Kaiser-Meyer-Olkin (KMO) test measures the sampling adequacy of the data. It has been observed that the value of KMO is 0.897 and it shows that the sample is adequate for EFA. Bartlett's test measures the strength of association between the variables or items.

TABLE II. KMO AND BARTLETT'S TEST

Kaiser-Meyer-Olkin Adequacy Measure of Sampling		.897
Bartlett's Test of Sphericity	Approx. Chi-Square	2631.557
	df	105
	Sig.	.000

Table III shows the factor loadings and the extracted factors for the CMC competency.

TABLE III. FACTORS EXTRACTED AND PATTERN MATRIX

Items	Component		
	Motivation	Knowledge	Self Efficacy
(V6) I enjoy communicating using Facebook.	.732		
(V7) feel cool about using the Facebook to communicate with others.	.789		
(V8) I am very motivated to use Facebook to communicate with others.	.837		
(V9) I look forward to use Facebook to communicate to others.	.832		
(V10) Communicating through Facebook makes me calm	.591		
(V12) I am never at a loss for something to say on Facebook.			.684
(V14) I always seem to know how to express myself on Facebook			.692
(V17) I feel completely capable of using all of the Facebook applications.		.543	
(V18) I am confident I can use any new Facebook applications		.510	
(V21) I quickly figure out how to use Facebook applications.		.724	
(V22) I know I can learn to use any new Facebook applications		.795	
Variance Explained	5.575	1.315	.574
% of variance	37.168	8.768	3.830

C. Descriptive Analysis

The mean and standard deviation for all the constructs used in this study are shown in Table IV.

TABLE IV. DESCRIPTIVE ANALYSIS

	Mean	SD	Cro Alp	OE	M	K	SEF	SE
OE	3.355	.917	.862	1				
M	3.289	.835	.890	.719**	1			
K	2.975	.887	.665	.489**	.533**	1		
SEF	3.393	.791	.723	.369**	.405**	.433**	1	
SE	3.721	.63	.852	-.082	.026	.123*	.176**	1

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

D. CMC Competency and Online Engagement

A multiple regression was conducted to examine the relationship between CMC competency and online engagement. Table V shows that only 53.5% of the variations in the online engagement has been explained by motivation, knowledge and self-efficacy. There was a moderate strength of relationship between online engagement, motivation, knowledge and self-efficacy (R equal 0.7) and the model has fitted the data well because the p-value of F-test was significant at 5% (p=0.000).

TABLE V. REGRESSION ANALYSIS

Model	R			F	Sig
	R	Square			
1	.731	.535	153.190	.000	

*Dependent Variable: online engagement.
 **Predictor: motivation, knowledge, self-efficacy

From the results in Table VI, can be clearly seen that motivation and knowledge are significant at 5% (p<0.05). However, self-efficacy is insignificant at 5% (p>0.05). From the overall regression analysis, it has shown that the impact of motivation on online engagement is very high ($\beta = .69$), compared to knowledge ($\beta = 0.13$).

TABLE VI. COEFFICIENT VALUES

	β	t	Sig.
Motivation	.687	15.110	.000
Knowledge	.134	3.085	.002
Self-efficacy	.069	1.526	.770

*Dependent Variable: Online engagement
 **Predictor: Motivation, Knowledge, Self-efficacy

E. Online Engagement, Self-Esteem and Gender

Another multiple regression was conducted to test the moderating variable of gender on the relationship between online engagement and self-esteem. Table VII shows the results from correlation analysis between gender and online engagement.

TABLE VII. CORRELATIONS ANALYSIS

	G	OE	G*OE
Gender (G)	1		
Online engagement (OE)	.194**	1	
Gender*Online engagement (G*OE)	-.809	.703	1

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

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

The result of the multiple regression is shown in Table VIII below. It has been noted that there was no relationship between online engagement, gender, G*OE (R < 0.7). It also can be observed that the model has not fitted the data well because the p-value of F-test was insignificant at the level of significance (5%).

TABLE VIII. REGRESSION ANALYSIS

Model	R			F	Sig
	R	Square			
1	.092	.008	1.137	.334	

*Dependent Variable: Self-esteem

**Predictor: Online engagement, Gender, G*OE

From the regression analysis in Table IX, it has shown that association between online engagement ($\beta = -.24$) and gender ($\beta = -.13$) on self-esteem are negative. However, the association on interaction of gender and online engagement (G*OE) on self-esteem were positive ($\beta = .05$). Results indicated that without interaction, online engagement and gender are both insignificant (p>.05). With interaction between online engagement and gender, the result is also insignificant (p>.05). Therefore, gender does not moderate the relationship between online engagement and self-esteem.

TABLE IX. COEFFICIENT VALUES

	β	t	Sig.
Online engagement (OE)	-.239	-.983	.326
Gender (G)	-.131	-1.195	.233
G*OE	.054	.771	.441

*Dependent Variable: Self-esteem

**Predictor: Online engagement, Gender, G*OE

VI. Summary and Discussion

The results from the study showed that the impact of motivation on online engagement was very high ($\beta = .69$). This is consistent with the finding by Ross *et al.* (2009) and that of Orchard *et al.* (2014), which found that, individuals with high motivation spends more time on Facebook. Higher

non-social motivations may lead to greater time spent for Facebook use per week (Jang Hyun *et al.*, 2010). The result for knowledge is linked closely with motivation, and this is supported by Hunter and Allen (1992) who found that the more knowledgeable a person, the more motivated the person would be. As for self-efficacy, result indicated that there is no effect of self- efficacy on online engagement. The result is inconsistent with that done by Yi and Hwang (2003) who found that application-specific self-efficacy has a direct and greater effect on actual use above user intention to use the system. This result is inconsistent with Harsha (2007) who found that Internet self-efficacy has positive effects on attitudes towards using SNS.

The study further found that that there is no impact of online engagement on young adults' self-esteem. The result is not supported by Mehdizadeh (2010)'s findings, which stated that there is a negative correlation between self-esteem and time spent on Facebook. This result is inconsistent with study done by Kalpidou *et al.* (2011), which found a negative relationship between minutes on Facebook and self-esteem. Pettijohn *et al.* (2012) stated that, those who strongly connected their self-esteem with their quality of friendship and relationships were predicted to be more active Facebook users. Besides that, Zywica and Danowski (2008), Harsha (2007), Yu *et al.* (2010) and Sponcil and Gitimu (2013), have expressed shared and contrasting view in this field.

The findings from previous research did not correspond to the results in this study, which stated that gender is not a moderator that can influence the relationship between online engagement and self-esteem. Corey *et al.*, (2013) indicates that female users of SNSs had consistently poor self-esteem. McAndrew *et al.* (2012), found that overall females engage more in Facebook activities than males. Similarly, Tufekci (2008), Hargitai (2007) and Muise *et al.* (2008), found that females spent more time to use SNS compared to males. However, a study done by Blomfield *et al.* (2013) is found consistent with the present study.

From the overall results, there is evidence on the relationship between online engagement and CMC competency factor of motivation and knowledge. However, there is no influence and effect on the association between self-efficacy and online engagement, and online engagement on self-esteem. Gender is not a moderator that can influence the association between online engagement and self-esteem.

VII. Limitation of Study

The results in this study may differ with the findings from previous research. This may be due to the samples used from other studies are wider and diversified. The sample used in this study is only 404 respondents and from only one university in Malaysia, which does not represent the whole population of young adults in Malaysia.

The studies in this area became important due to the growing number of Facebook users. Future research should further explore the differences in purposes and impact of SNSs use, especially the Facebook. The prediction on characteristic of individual who's attached to Facebook or SNSs use is very important to increase young adults' awareness and to avoid negative effects of SNS use especially on students' academic performance, personal well being, communication and self-esteem.

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References

The list of references is available upon request from the authors.

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