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## Examining the Effect of Gender Identity on the Use of Social Media Technology: A Higher Education Approach

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### **ABSTRACT**

This paper examines, elaborates and presents data around gender issues relating to social networks use by higher education students as a medium to understand the effects of gender identity on the use of technology. The statistic outputs of 252 students declare that no significant gender-related differences are found towards the actual usage of social networking sites. Moreover, the outcome demonstrates the old gender gap shrinkage being subsumed, at least in specific areas of SNS use by some students and outlines the potential of students' social networking for education. Although the unequal gender percentage of the sample strongly supported gender inequality, the results however clearly revealed that the evolution of social networks in students' lives is oriented towards gender-equality. Additionally, the paper gives an added value in the literature of social media and gender issues, and it shapes future directions for research on this trend.

**Keywords:** Gender identity, higher education, social media technology, university students.

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## 1.0 Introduction

“Social networking sites (SNS) are cited as creating more attractive learning environments as they are infiltrating the educational arena” (Chen & Bryer, 2012; Nisiforou & Laghos, 2014 p. 1103). Growing literature tends to focus only on specific phases of social networking such as social issues, rather than addressing in a comparative way the spectrum of social media in the educational field. Most studies investigate the relationship between social media usage and academic performance (Kirschner & Karpinski 2010; Chen & Bryer, 2012). The present study was designed to gather information for the current use of Online Social Networks (OSN) by students, known nowadays as “social media”, which have become a critical part of our everyday lives. Greenhow (2011) investigated how social services form the educational spectrum, trying to understand whether users’ value these sites for academic uses or non-academic uses.

A great necessity for students and instructors is to understand that beyond the passive usage of SN there is a challenging scope of learning that assists in acquiring knowledge. Building on what is accepted by students as a familiar activity, we can encourage them to become engaged participants in their online connections (Reynard, 2008). Additionally, most papers that refer to the online social applications in higher education are case studies (Jucevičienė & Valinevičienė, 2010). Other characteristics of network variety should be explored in addition to occupation, such as the variety of gender and ethnicity (Erickson, 2003). Due to the above statement the current paper aimed to investigate and present attendees’ usage on social media services as well as to shed a look on students’ perceptions towards social sites educational value.

Numerous international studies still point out significant gender-based differences in students’ computer use at home and at school (Vekiri & Chronaki, 2008) as well as in their views about gender, technology, and computer learning (Volman & van Eck, 2001). Even though gender differences in many cases exists to a lesser extent, they may differ by country (Reinen & Plomp, 1997) or age (Volman, van Eck, Heemskerk & Kuiper, 2005). As suggested by Vekiri and Chronaki (2008) despite the existing debates on gender equality, computer use appears to be a heavily gendered space. Notwithstanding the social sites trend is relatively new, numerous researches have been conducted in different countries to understand the students’ usage of online social services. Since currently insufficient data exist on this subject in Cyprus, it is, therefore, indispensable to draw attention and examine the purposes of social media use in students’ population retrieved from the current technology-based university.

In light of the popularity of social networks that play a vital role in university students’ lives, this research paper serves to examine the relationship between social media use and gender. Even though the learning purpose is not the main objective of this study, it attempts to provide a glance into students’ perceptions towards SNSs use. Based on studies emphasizing gender-related differences in Internet communication and behaviour in general, it can be assumed that men and women have different motives regarding their SNS usage (Haferkamp, Eimler, Papadakis & Kruck, 2012).

Up to this point, Cyprus lacks from published studies on the use of social media by gender in higher education. Thus, this paper will seek to provide a preface of online social technology use amongst males and females, in a different socio-cultural context such as Cyprus in order to understand today’s social structure with respect to gender identity and social technology usage in higher education. Hence, this article could add to the relative body of literature related to SNS and enrich both the national and European research agenda on this issue. Therefore, the paper attempts to address the research question (RQ) by gaining insights on the following research objectives:

RQ1: Are there any gender differences between male and female students’ use of social media technology?

- (i) Assess the most popular social sites used by males and females.
- (ii) Investigate the frequency of the SNS visits by genders.
- (iii) Identify the purposes of the SNS use by male and female students.
- (iv) Outline students' perceptions towards educational networking.

The following sections start with the literature review which sheds light on the past and current state-of-the-art in the research fields of social networking sites usage by students along with a compendium of terms, definitions and explanations of concepts which are clearly explained. Furthermore, the research design and the methods that have been followed to address the objectives of the study are presented along with the population of the study, collection, and analysis of the data. The findings of the paper are discussed in the discussion section. Finally the research contribution and the ideas for future work are also outlined in the conclusion section.

## 2.0 Literature review

In recent years, most institutions offer some online courses, (Allen & Seaman, 2008) whereas others offer only online lessons. The use of social technologies, particularly Web 2.0 tools, is a relatively new phenomenon (Shaohua & Peilin, 2008). Web 2.0 has been gaining popularity and has a noticeable effect on higher education (Armstrong & Franklin 2008). Demographically most of Web 2.0 users are youngsters categorized as the 'Digital Natives' (boyd & Ellison, 2007; Prensky, 2001) or known as "net generation" (Junco & Cole-Avent, 2008). Since face-to-face communication (Tiryakioglu & Erzurum, 2011) in interpersonal relationships have been gradually been replaced with communications through technological devices, new types of relationships have been established and online SNSs have become part of these virtual communication forms (Murray, 2008). One of the most famous and well-known social network that has surged globally is Facebook (Toprak, 2009); having surpassed 1.35 billion users in 2014 (Facebook, 2014). SNSs can be easily, inexpensively and successfully integrated in education without the need for substantial support from universities. Additionally, educators may gain benefits that possibly derive from the use of SN as an educational tool (Balci, 2010) and come across these benefits in order to utilize them during the teaching and learning process. Based on a certain study, it is indicated that a significant number of students spend non-negligible time in such sites (Jones, Blackey, Fitzgibbon & Chew, 2010). A study conducted by ECAR (EDUCAUSE Center for Applied Research) pointed out that undergraduate students use of social media services increased from 2007 to 2010 (Dabbagh & Kitsantas, 2012). Students are using the Twitter platform to stimulate their engagement in classroom (Rankin, 2009).

Designed for social uses, SNSs appeared to be in the process of transitioning to other arenas of teen life, including education. A study by Karlin in 2007 showed that nearly 60% of students who use SN talk about education online whereas, over 50% talk about specific school work (Karlin, 2007). In light of this, it is not surprising that high schools are beginning to experiment with SNSs. A research conducted in 2007 described the Saugus Union School District use, as an educational equivalent of MySpace and Facebook (O'Hanlon, 2007). Gender issues in technology use have been noticed and emphasized in computer and education research in the last two decades (Tsai & Tsai, 2010). Before the 1990s', computer technology seemed incompatible with women because the language and ways of thinking associated with it had reflected a culture of masculine domination (Turkle, 1997). The computer appeared to be an unwelcomed environment for women in computing until the mid-90s' because of the advent of the World Wide Web (Turkle, 1997; Tsai & Tsai, 2010; Nisiforou & Laghos, 2014). Therefore, more studies began to highlight gender issues concerning the Internet use (Wu & Tsai, 2006).

The era of Web 2.0 technologies has harnessed social networking (O'Reilly, 2005) and has become an essential tool of daily life as well as a crucial part of students' personal knowledge toolbox (Lee, Miller & Newnham, 2008). The appearance of such powerful tools enhances communication, fosters critical thinking and encourages collaborative learning. This new trend of utilizing social networking technologies for educational intentions, known as educational networking, will increase

students' engagement in their education, contribute to a greater sense of cooperation in the classroom as well as develop better communication skills.

### 3.0 Methodology

The questionnaire was selected as the most appropriate method that would enable us to examine the situation in terms of social media usage in Cyprus among university students. Additionally, by utilizing statistical analysis, we were able to determine the extent to which differences exist in students' engagement in social media general use. An overview and an analysis of the existing online tool are discussed, as well as the issues surrounding this topic. In particular, given the focus of the present study on social networking services, the participants' background information was collected to provide a better understanding of their use. The study intends to investigate whether differences exist in genders actual usage of social network sites and hence seek to determine possible relationships if any, regarding gender and SN usage.

A total of 252 freshmen students of a public university aged 18 to 20 years participated in the study. In the academic year 2013-2014 the total number of the first year, University students' population was 820 from which 512 represent the female population while 308 stand for the male population. Data derives from a questionnaire on social networking services. The group above was selected from the university's records on the students' list entrance and served as the target population of the study. The current survey provides the research community with adequate information on the social networking usage of a certain student's population in Cyprus.

Data was gathered via an online survey with a link that was administered only to the first 300 registered students (represent almost the one-third of the total first year students population) due to university restrictions. Within the 252 valid questionnaires received for data analysis, the sample was composed of  $n=71$  males (28.2 %) and  $n=181$  females (71.8 %), thus, results could be indicative and representative to the general (university) student population but not to the national student proportion. This is not a limitation of this study since student proportion mismatches because the female distribution in the University is more than the male population. In a research that took place in 2011, it was reported that females represent more than half of the population of Cyprus, with 51, 4% of the overall population (CYSTAT, 2012). The outcomes yielded from the analyses are summarized in Table 1. Additionally, a study conducted by the Cyprus Statistical Services (CYSTAT) in 2012 indicated that there is a large deviation between the respective numbers of Cypriot male and female students in Tertiary University Education in Cyprus, with men representing lower numbers than women.

#### 3.01 Instrument and data analysis procedure

The survey was used as a primary data collection as to assess and determine users' motives for participating in SNS in general. The survey was distributed via the survey Monkey system, which is an online survey construction, administered in the year 2011. In total, only 300 email invitations were sent due to university restrictions, with 252 completed surveys representing a completion rate of 84%. The research tool was developed in Greek and then translated into English to confirm the adequacy of the questionnaire. For reliability and validity purposes, a Greek literature and English literature teachers helped with the translation process. To improve the response rate, the survey was offered in an electronic format-based. Both were completed anonymously. The questionnaire contained three sections: A) demographics (students' background information), B) usage of online social networking; consisting of 3 questions and C) use of social network sites for learning purposes with two questions; one quantitative and one qualitative. Questions in section A were measured by a multiple choice format that was designed so students could give only one answer.

Additionally, each item of the first question in section B was evaluated by a 5-Likert scale (ranking from 1 = “Never”, 2 = “Rarely”, 3 = “Less than once a week,” 4 = “2-3 times per week” and, 5 = “Daily”). The second item was an open-ended question. As for the section C with regards to educational networking, this was also self-evaluated whereby the students responded to each question on a five -point level scale anchored by 1 = “Not at all”, 2 = “A little”, 3 = “enough”, 4 = “much”, 5 = “very much”. The fields were all mandatory as each student could choose strictly one selection among the proposed answers.

The quantitative data was coded, and statistical analyses were calculated using the statistical package SPSS version 16.0.0. Various parametric analyses were employed to address the research questions of the study. An independent sample T-test was performed in order to examine the significances of gender difference towards online social networking use among students. In addition, all selections of online motives are examined by one sample independent t-test between genders in order to investigate and compare the difference in gender composition of each online purpose selection. The criteria for identification and outcomes of analyses are presented in the result section. Additionally, qualitative data were retrieved from the open-ended question of the survey and served as a secondary source in order to provide more in depth information for the phenomenon under study. The criteria for identification and outcomes of analyses are presented in the result section.

#### 4.0 Results

In the following sections, the descriptive statistics of the male and female respondents are presented in Tables 1 to 4 indicating the means, the standard deviations and the statements of the depended factors among respondents. The results of the quantitative data analysis of the questionnaire undertaken to examine students’ actual usage of SNS (frequency, visits, purposes, perception) and compare them by gender (see Tables 5 and 6). The sample of the survey respondents was composed of 71 males and 181 females; a total of 252 students. This ratio was expected as the female population at the Cyprus University of Technology is higher than the male population. Although the sample was female dominated, the findings demonstrated that the use of social media is shifting gender identity from inequality to equality.

**Table 1.** Mean and Standard deviation of students’ SNSs visits.

Social Network Services		Mean	S.D
(a) Facebook		4.01	1.55
		4.37	1.15
(b) MySpace		1.19	.720
		1.17	.61
(c) Twitter		1.29	.89
		1.42	.89
(d) Flickr		1.21	.81
		1.22	.68
(e) YouTube		4.44	.89
		4.43	.78
(f) Windows Live Messenger		2.54	1.48
		2.91	1.37
(g) Moodle		3.53	1.15
		4.00	1.16

(h) Discussion Forums		1.71	1.09
		1.61	.91
(i) Chat rooms		1.74	1.12
		2.09	1.36
(j) Blogs		2.92	1.62
		2.62	1.40
(k) Other		2.16	1.69
		2.00	1.52

**Table 2.** Mean and standard deviation of students' SNSs purpose of use.

SNS usage		Mean	S.D.
(a) Find Information		4.24	.89
		4.18	.86
(b) Socialize		3.45	1.44
		3.56	1.33
(c) Communicate with friends and family		3.98	1.27
		4.31	1.13
(d) Entertain		4.03	1.12
		4.23	1.05
(e) Stay-up-to-date		4.21	.93
		4.05	1.05
(f) Other		1.74	1.34
		1.79	1.41

**Table 3.** Mean and standard deviation of students' online connections.

a) Close friends		4.45	.80
		4.47	.83
b) Friends		3.94	.83
		3.84	.94
c) Classmates		4.24	.95
		4.25	1.02
d) Family		4.57	.83
		4.26	1.05
e) People within the same country		3.25	1.21
		3.12	1.29
f) People from abroad		2.55	1.04

g) Strangers/unknown people		2.77	1.23
		1.84	1.11
h) Other		1.74	.97
		1.07	.27
		1.18	.69

**Table 4.** Mean and standard deviation of students' perceptions towards educational networking

Perceptions		Mean	S.D.
Educational Networking		2.57	1.04
Educational Networking		2.66	1.16

#### 4.01 Social networking sites visits by gender

Students' visits to online social sites (OSSs') were measured using a five-point Likert scale, rating how often they usually visit each platform (Table 1). The vast majority of students [male (18.3%) and female (47.9%)] yielded the same trend when visiting certain networking services with Facebook being ubiquitous for both genders. Only a small percentage of students (on average 5.1% for both gender) never join Facebook. On the other hand, on average 27% of males and 63% % of females did not visit Myspace, Twitter, and Flickr. Referring to YouTube and Moodle, male students (17.9% and 12.7%) answer 'daily' or '2-3 times a week', respectively, compared to MSN visits, where 9.5% presented a negative response ("never"). Almost the same trend appeared by female respondents regarding YouTube as they used it every day (49.0%). In contrast to male students, females were more likely to visit MSN and Moodle on a daily basis (13.3% and 28.8%, respectively). With respect to students' involvement in Discussion Forums, (17.9% and 42.0% for male and female, respectively) Chat rooms (17.9% and 35.4%, respectively) and Blogs (9.4% and 21.2%, respectively), the majority of the respondents indicated their low interest in a much lesser extent. The results showed that most of the students' yielded the same trend when visiting certain OSNs', with the most dominant and leading platform amongst the cohort being Facebook. Additionally, we observed no statistical significant differences regarding the social networking visits and gender-related differences.

#### 4.02 Independent sample T-test

Finally, in order to examine whether statistical differences exist in the responses of male and female students, a follow up independent sample *T*-test was performed to compare and demonstrate the responses among the questions of the research tool. The results are summarized below in tabular form. In relevance to the first question of the questionnaire according students preferences on SNSs and the frequency of their visits, the results showed that on average, both groups were more likely to give common answers as might be expected in this section. A modest negative and statistically significant relationship was found between the variables "gender" and "OSN visits" with regard to Moodle platform, giving the following results  $t(-2.679) df = 114.165, p = 0.008 < 0.05$  (as shown in Table 5). Specifically, by observing the outcomes, statistical differences were identified between males and females regarding their logins to Moodle ('2-3 times per week') in contrast to the latter group that did so on a daily basis. According to the other three questions of the research instrument, the results revealed no discrepancies amongst the mean values of the two surveyed groups and therefore, no significant differences in either sex were indicated in terms of their social network technology use.

Although the difference is negligible, female students were using Moodle platform more than men, and a statistically significant gender difference was found ( $t = -2.679$ ,  $df = 114.165$ ,  $p = 0.008 < 0.05$ ).

**Table 5.** Independent sample T-test on online SNS's visits between males and females

Levene's Test Equality of Variances		t-test for Equality of Means				Sig. (2-tailed)
		F	Sig.	t	df	
a) Facebook	Equal variances assumed	9.677	0.002	-1.831	211	0.069
	Equal variances not assumed			-1.623	90.161	0.108
b) MySpace	Equal variances assumed	0.271	0.603	0.220	211	0.826
	Equal variances not assumed			0.205	98.500	0.838
c) Twitter	Equal variances assumed	2.067	0.152	-0.987	211	0.325
	Equal variances not assumed			-0.989	113.992	0.325
d) Flickr	Equal variances assumed	0.006	0.940	-0.055	205	0.956
	Equal variances not assumed			-0.051	96.218	0.959
e) YouTube	Equal variances assumed	0.304	0.582	0.099	210	0.921
	Equal variances not assumed			0.094	99.487	0.926
f) Windows Live Messenger	Equal variances assumed	0.824	0.365	-1.711	209	0.089
	Equal variances not assumed			-1.653	103.606	0.101
g) Moodle	Equal variances assumed	0.944	0.332	-2.676	210	0.008
	Equal variances not assumed			-2.679	114.165	0.008*
h) Discussion Forums	Equal variances assumed	2.659	0.104	0.660	210	0.510
	Equal variances not assumed			0.612	97.786	0.542
i) Chat rooms	Equal variances assumed	3.130	0.078	-1.775	210	0.077
	Equal variances not assumed			-1.921	132.932	0.057
j) Blogs	Equal variances assumed	4.054	0.045	1.349	210	0.179
	Equal variances not assumed			1.270	100.601	0.207
k) Other	Equal variances assumed	2.977	0.087	0.556	129	0.579
	Equal variances not assumed			0.535	75.894	0.594

#### 4.03 Students' SNS usage profile

The same ranking scale was employed to assess and identify the different activities participants were engaged in using SN (see Table 2). The vast majority of the respondents (13.6% for males; 30% for females) login to find information on a daily basis for certain everyday transactions. In terms of socialization matters, students' indicated a positive attitude with a percentage of 10% and 21.8% for males and females respectively as they socialized online daily. More than half of the female respondents (44.3%) were more likely to communicate with friends and family. The same tendency was reported by males (13.6%). Mentioning entertainment as a way to manipulate online network tools, a small amount of both groups (0.9% per gender) expressed negativism in using social media for that purpose, in contrast to the entertainment subcategory that was part of their day life (12.7%, 39.2%; male, female respectively). With respect to how often they use the online platforms as a way to update themselves (stay in touch with everyday life), the most common response choices included, once a week or less, and 2-3 times per week for males and between 2-3 times per week to daily usage for the

females. The results reported that the according to never and rarely ratings were less likely to be reported.

#### 4.04 Communication Through the use of online SNSs

With respect to the group of people students tended to communicate with online (Table 3), the data revealed no significant differences between males and females. In particular, the findings reflected that most of the females preferred to communicate on a daily basis with 'close friends' (44.6%), 'family' (41.1%) and 'classmates' (39.2%) while they never contact unknown people (37.5%) and rarely with people from abroad (14.5%). Men, on the other hand, were more likely to communicate daily with members of their family(19.5%), close friends (16.1%) and classmates (13.4%), 2-3 times per week with their friends (15.1%) and 12.5% never came into contact with unknown people.

#### 4.05 Perceptions towards SNSs use for educational purposes

##### 4.5.1 Quantitative data analysis

The respondents expressed the degree in which SN can be used as an augmentative tool (Table 4). Additionally, in order to access students' perceptions towards the use of SNS as an instructional tool, an open-ended item is utilized. Specifically, students were asked to express their views towards the use of social media for educational purposes. A vast majority of male and female students revealed a suspicious attitude about it since they did not act based on pedagogical motives. It is worth mentioning that only a small number of students were in favour of using social networking services for educational reasons since they expressed their optimistic responses towards this usage.

##### 4.5.2 Qualitative data analysis

In order to get a more comprehensive understanding and provide better access to the participant's experiences and views regarding the educational networking, an open-ended question was employed. With the use of qualitative data, it was more likely to measure the participants' experiences, preferences and views (Cohen, Manion & Morrison, 2000). The results illustrated that the majority of the participants mentioned that they were not likely to rely on social media for educational purposes, however without realizing it. The responses revealed from the rest items of the questionnaire come into conflict with the findings indicated from the open-ended item. Students' reports were categorized and some of the most indicative responses are demonstrated in Table 6. Students yielded some valuable information about the use of social media as an educational tool. The following statements per category demonstrate students' viewpoints and experiences regarding the educational usage of SNS.

**Table 6.** Students' perceptions on educational networking experiences.

Educational tool	Non Educational tool	Social tool	I do not know	Other
<ul style="list-style-type: none"> <li>• "It's useful because you can discuss with others concerning the educational matters instead of just searching for them from a solid source".</li> <li>• "Very useful tool"</li> </ul>	<ul style="list-style-type: none"> <li>• "I do not use it for this purpose. I use other pedagogical sources".</li> <li>• "I visit blogs in a daily basis to find information but I do not know if this is an educational purpose".</li> </ul>	<ul style="list-style-type: none"> <li>• "I believe it is used as an entertainment tool instead of educational".</li> </ul>	<ul style="list-style-type: none"> <li>• I do not have a relevant experience"</li> <li>• I have no experience"</li> </ul>	<ul style="list-style-type: none"> <li>• Social media tools are useful and helpful in communication"</li> </ul>

## 5.0 Discussion

The results of previous studies that looked into gender dissimilarities in the use of SNSs suggest that gender identities in different national cultural contexts embody different expectations of the people performing them. Since the digital era is a worldwide phenomenon, it is important for each society to conduct research on social media in order to understand students' general usage and then be able to employ social sites in real learning environments. In order to achieve the aforementioned suggestion, the main objective of this study was to delve into students' use of SNSs in Cyprus. This study provides to research community with adequate information of why and how university students make use of social media.

The outcomes of the present study indicate apparent increase of equality in terms of SNS usage in both male and female student groups (gender balance). A possible explanation of this similarity observed in students' use, might stem from the fact that Cyprus schools are not segregate by gender, in contrast to the high performing schools in the UK. The educational system provides equal opportunities for students due to its nature; that is not a male dominated, thus gender-related differences are less likely to be reported. Furthermore, the majority of schools in Cyprus have sufficient technological equipment (MOEC, 2008) and computer subjects are taught and used in schools in such a way where boys and girls have equal access to technology demonstrating no gendered technology biased toward women. ICT is implemented not only in the secondary education of Cyprus but is also integrated in the primary schools curriculum (Nisiforou & Laghos, 2011). Notably, in the National ICT policies report, (Steps, 2007) Cyprus, Estonia and Netherlands appear to have among other European countries one of the highest levels of ICT competence in their primary schools (Nisiforou & Laghos, 2011). Chu (2010) argue that gender based differences in the use of the internet among genders possibly emerged because of the socioeconomic status issue.

The aim of the study was to identify whether differences exist, between males and females usage of social media at a university level and statistical differences were not found between the two groups. The following sections are discussed in terms of the four objectives of the study.

### 5.1 Objective (i): Assess the most popular social sites used by males and females

Particularly, with regards to the variable "students' preferences in SN visits" no gender patterns of inequality were observed while not surprisingly, Facebook was the top favorite site of students' daily visits. A study conducted by (Greenhow and Robelia, 2009) found that teenagers access social networking sites on a daily basis.

The current study found that Facebook is considered to be an overwhelmingly superior site used by the majority of the responders. Similar findings were indicated in 2007 and 2009 reporting Facebook as the most popular visited site among the surveyed (Heffernan 2009; Eteokleous-Grigoriou & Ktoridou, 2013). According to Martin (2009), students are more likely to use Facebook and YouTube than any other social media platform such as Twitter, MySpace, and LinkedIn (Eteokleous-Grigoriou & Ktoridou, 2013). The sole sign of the statistical gender-based difference is found in the Moodle learning system, where females use it on a daily basis contrary to males that use it 2-3 times per week. Additionally, despite the fact that there is a statistical difference, this frequency is limited. The reasons behind this difference occurred among the two groups, might probably due to several external indicators such as culture and economic situation of the country; as well, as natural differences between the two groups, based on biological factors that might manifest differently according to gender. These include brain structure, learning styles, maturity pace, experiences and level of confidence.

Another possible parameter to this outcome could stem from the fact that students are indirectly obliged to use Moodle technology as a way to stay up-to-date with their university courses while the

use of Facebook and its sister technologies are not a required action. This outcome is similar to what is assumed by (Selwyn, 2008), that academic-based information searching in Moodle platform is a prominent aspect of students' daily online activities while Facebook and all the other sites are not a predominant aspect. On the other hand, the result conflicts with a previous empirical study that has shown no differences between gender users of Moodle platform (Babo, Lopes & Rodrigues, 2010). A research by Escobar-Rodriguez and Monze-Lozano (2012) reported that those using Moodle platform frequently, seem to get better grades than those who rarely or never use it. Furthermore, researchers (Babo et al., 2010) have consistently found that girls are more concerned than boys in pleasing adults, such as parents and teachers; thus visiting e-learning source platforms such as Moodle might help them be in line with their university courses. With regards to one possible factor that seems to be connected to gender-related differences in visiting Moodle, is the required skills students have for using social networking tools. A study by (Tasir, Al-Dheleai and Harun, 2011) has shown that female students are more skillful and ready for using social networking services (mean = 4.23) than male students (mean = 4.07). Moreover, in (Costa, Terracciano and McCrae, 2001), significant differences were reported in the way that girls and boys learn; differences that are more substantial than age differences and are related to brain structure. This might turn out to be an additional factor that probably influenced the statistical difference detected in Moodle use. With respect to students' interests, researchers stated that while the stemming from a gender-based view is not significant, girls seem to prefer subjects that are more useful for their everyday lives (CIDE, 2006).

## 5.2 Objective (ii): Investigate the frequency of the SNS visits by genders.

Moreover, as far as the usages of SNSs are concerned, students' responses showed no statistical differences since both groups tend to rely on social media to find information, communicate, entertain and socialize. In view of this, the outcomes of a study by Brandtzæg (2009) pointed out that students' motives in using social media are mainly to keep in touch with existing friends as well as to socialize (Brandtzæg & Heim, 2012). Moreover, in line with this outcome, Almadhoun, Lai, Dominic and Dhanapal (2012) found that the majority of Malaysian university students' most common usages of social media were to contact with friends, information searching and fritter away time. A research by Salaway and Caruso (2010) found that students are using social media to collaborate with their peers regarding course-related purposes. Another study revealed that boys and girls are more likely to use technology for entertainment matters while there is a slight gender unbalance in using it as a way to communicate and search for information (Papastergiou & Solomonidou, 2005). Haferkamp et al. (2012) posited that women tend to use SNS for searching for information while men, on the other hand, and are more likely to look at other people's profiles to find friends. Moreover, students' level of participation in online settings depends on the nature of the activity they are engaged in (Kirkwood & Price; 2005).

Other studies (Rainer, Laosethakul & Astone, 2003) have also investigated and compared gender gaps of college students' internet - use and attitudes from 1995 to 2002. Mumtaz (2002) and Volman et al., (2005) assert that females' most common activities on the internet were mainly sending emails to friends and for online communication, whereas males have rated playing games as their most popular usage. Similar findings were noted in Tsai's research, conducted in the year 2006 in a high school in Taiwan. Boys view the Internet as a way of entertaining themselves while girls interpreted internet as a communication medium.

## 5.3 Objective (iii): Identify the purposes of the SNS use by male and female students.

Additionally, no significant men-women differences are indicated with refer to students preferences on whom to communicate through social media, as most of the participants are more likely to come into contact with their family, friends and classmates. The findings may reflect the fact that SNSs are related to the real-world construction of communication. These perceptions are in line with the work of other researchers which reported that time spent on Facebook with regard to gender effect, is related to real-world involvement on the university campus (Heiberger & Harper, 2008). Tufekci's (2008) and

Kuh's (2009) findings are in favour with the aforementioned outcome as they reported that users of SNS had more real-world contact with friends than non-users.

In view of students' perceptions towards OSN usage for educational purposes, statistical differences among males and females are not found. It is noteworthy to say that, even though, the vast majority of students tend to believe that they do not use SNSs for educational matters, their overall usage provided the opposite perspective. In line with this thinking, findings of a study suggested that Singapore students used Facebook primarily for non-educational reasons (Hew & Cheung, 2012).

Moreover, Margaryab, Littlejohn and Vojt (2011) suggested that students' have limited understanding of how technology may enhance learning. A study in 2012 demonstrated the educational benefits of social networking and stated that university students use SNSs and specifically Facebook for educational purposes, however, without actually realizing it (Eteokleous, Ktoridou, Stavrides & Michaelidis, 2012).

A possible explanation to this effect could be the fact that since learner-centered learning occurs through online networking, students tend to distinguish SNS as part of learning. A study conducted in 2011 in Cyprus documented that individuals' use of the internet, appeared to be equal for both sexes in the age group 16-24 years and slightly different between the age group 25-54 with men recording higher proportions as compared to women. These outcomes are expected since the first group consists of computer natives whereas the second age group contains both digital natives and digital immigrants; people that did not grow up in the digital era. However, as the years go by, the difference(s) in internet usage among the two sexes in the second age group probably will be the same (CYSTAT, 2012). Another possible explanation of the students' tendency to rely on social media, could be the economic crisis which is relatively a new overshooting phenomenon in Cyprus and further studies need to examine its effects on social networking use. A possible explanation of the internet usage increase could be due to the economic crisis that made students search for alternative and free ways of communication. Specifically, the unemployment rate rose up in 2012 compared with a year ago, indicating one of the largest decreases among the 27 Member States (Eurostat, 2012). In the context of the questions posed for this research project, the social networking sites preferred by female students, as an aggregate group, differ only marginally from male students. For example, the usage of the different social media is the same for both groups except for in the case of the Moodle system. This reflects the findings of the most recent ECAR national study of undergraduate students and information technology, which found that 90% of students use Facebook (Dahlstrom, Grunwald, de Boor & Vockley, 2011). Additionally, Chinese students were the only international group to exhibit a difference in their use since they visit Renren (72%) and Qzone (56%) sites. A study by Wasserman and Richmond – Abbott (2005; Caspi, Chajut & Saporta, 2008) indicated a higher level of women's participation in web-based communication in contrast to men, as well as the gap between genders with respect to Internet access has vanished.

#### 5.4 Objective (iv): Outline students' perceptions towards educational networking.

In terms of using social networking for educational purposes, the majority of students' mentioned that they are less likely to use it, indicating their lack of understanding towards the term educational networking. In line with this result, a study by Saw, Abbott, Donaghey and McDonald (2013) stated that the usage of social networking sites for educational intentions was much less frequent than usage for social activities (Saw et al., 2013). On the other hand, Dahlstrom et al. (2011) found that students use Facebook and Renren platforms for a gamut of educational intentions.

### 6.0 Concluding remarks and future directions

In the last decade, the bond between society and technology has become stronger as the latter stands to be a part of our daily life. OSNs have affected today's society positively, and peoples' attitudes

toward technology tend to change over time. Nowadays, there is a new wave that tends to narrow the gap between males and females general usage of online social networking sites. This study has raised many interesting questions as it triggers additional empirical investigation on online social networking.

The noteworthy contribution of the paper is that it provides insights on today's social structure based on gender identity from a social networking usage perspective. Research outcomes depicted that statistical gender-related differences between Greek-Cypriot students' general use of SNSs do not exist as it seems to stem from the rapid evolution of the information age that has transformed students' into digital natives. Based on the above-mentioned, young women and men in a public and technological domain university in Cyprus are using SNSs' equally, while female students differ only marginally from male students in their use of Moodle platform but this is not in depth enough to warrant a significant difference and, therefore, draw generalizations. On the contrary, discrepancies are not found in the open-ended question of the research tool; attitude and perception towards educational networking.

The findings of the study stress the importance of investigating the phenomenon in more depth, since the present study was presently aiming to provide an insight into the current situation with respect to social networking usage from a gender identity viewpoint. Additionally, there is a necessity for a further research agenda that will evaluate, compare and analyse the results of the decisive academic years 2011 to 2013 so that these preliminary and promising results to be reinforced and verified. Moreover, the lack of relevant literature and the existing gaps in empirical and theoretical framework with respect to social networking technology usage in Cyprus make imperative the conduct of a larger study that will draw general conclusion about the entire students' national population. Furthermore, it will be interesting to conduct a comparative study of all eight (8) Cyprus Universities (3 Public and 5 Private) students in order to examine the current state of social networking technology usage, attitudes, perceptions and networking experiences within a real learning environment. Hence, gain more representative results of the students' population in the Cypriot higher education system. In order to leverage social media to become valuable tools in higher education as well as beneficial for learners', we need to be aware of students' general use, and therefore, find appropriate methods to integrate them into real learning environments.

Specifically, understanding how these social tools could be implemented in the tertiary education as augmentative means in enhancing teaching and learning is of paramount importance. Further studies need to take into account a broader spectrum of students to cover demographics, such as age group, learning styles, level of study, year of study, academic discipline, social and cultural status. In the future comparisons between students' usage in social networking and private and public university sectors will be made. In order to foster a global perspective that may conclude to significant results, future cross-cultural comparisons considering the educative potential for educators and students in using social networks would be beneficial.

In addition, the paper has educational and theoretical significance as it highlights students' general use of social media with refer to gender. Consequently, it adds to the relatively new body of literature related to social networking technology and gender studies. Likewise, researchers could replicate the study adding extra institutions of higher education. The findings have shed light on the usage of social media in a public university but cannot be generalized to the entire students' population in Cyprus higher education. As Stoller (2011) suggested, knowing how students make use of social networking sites we can then develop this knowledge and therefore higher education can capitalize on social media as a way to create relationships, student retention, and engagement and change social structure.

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