

Student Preferences With Regards to the Use of Internet Content: Gender Differences

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KEYWORDS Ecommerce. Education. Entertainment. Learning. New Technologies. Youth

ABSTRACT Youth population is the one most receptive to the appearance and use of new technologies, which renders the focus of researchers on the relationship between the young and the Internet quite justified. Considerable attention is drawn to particular variables such as age, education, gender and socioeconomic status, which are considered the most significant predictors of online behavior. The paper presents the results of a research based on a quantitative approach the aim of which was to examine Internet content preferences depending on the gender of students in the Balkans, and the results of the research point to the presence of gender differences. In comparison to female students, male students mostly prefer educational and entertainment content on the Internet. On the other hand, the obtained data shows that online video gaming and ecommerce services are dominated by female respondents.

INTRODUCTION

Along with the rapid development of the Internet, a need has arisen to study different variables, which affect its use, among which the attention of researchers was mostly drawn to age, education, gender and socioeconomic status, since these are considered the most significant predictors of online behavior (Amichai-Hamburger and Hayat 2010; Terzis and Economides 2011; Aesaert and Braak 2015). A research into these significant variables led to the coinage of the phrase—digital divide, indicating an inequality between different groups of people regarding their access to computers and the Internet (Lin et al. 2013; van Deursen and van Dijk 2014). The initial assertion, that there was inequality, constituted an inspiration for numerous studies, which were focused on the access to computers, as well as on the use of ICT depending on various factors (van Deursen et al. 2011; Gomez and Camacho 2012; Iniesta-Bonillo et al. 2013; Lee et al. 2015). By analyzing relevant studies one can ascertain that the results obtained from researching into gender differences regarding the use of Internet

content are multifarious and conditioned by an approach to a respective research and its goals. In that context, the research performed in the early 1990s showed that women had less experience in working with computers than men, and that they mostly used computers at work for the purposes of performing routine office tasks (Dhalokia et al. 1994; Wasserman and Richmond-Abbot 2005). The results of the research in the period between 1997 and 2001 showed that there were significant differences in one's Internet access in favor of men during the nineties but that in the years to follow the pendulum swung back in favor of women (Weiser 2000; Newton 2001; Schumacher and Morahan-Martin 2001). The development of the Internet, and its adjustment to the needs of an increasing number of users, contributed to the reduction of gender differences, due to the fact that women became more interested in using new technologies (Clemente 1998; Cummings and Krout 2002; Shaw and Gant 2002). Some research conducted in the late nineties showed that there were no statistically significant gender differences regarding computer anxiety, computer liking and computer confidence (Couper and Groves 1996), and no gender variations regarding the Internet access, except in the case of rural areas where technology was generally less accessible and more expensive (Bimber 2000).

However, the origins of this condition can be found in the very approach to research, which in earlier years was focused on broader topics, thus contributing to the lack of reference to gender

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differences in Internet usage. In contrast, when the goals of research are specified in terms of concrete topics (the use of a specific program, computer literacy), one can expect the results that point to the existence of statistically significant differences regarding the respondents' gender. From this standpoint, the studies conducted after the year 2000 indicated that specifying the issue that is examined offers a clearer image regarding gender differences. Ono and Zavodny (2003) indicated gender differences in Internet usage regarding the access, frequency and purpose. The fact that specifying the topic of a research contributes to a clearer overview of gender differences, was substantiated by the research studies the aim of which was to examine the efficacy (Lin and Overbaugh 2009), computer anxiety (Dundell and Haag 2002), distributed cognitions (Ding et al. 2011), and the use of the application Microsoft PowerPoint (Imhof et al. 2007).

Although the existence of a gap between the sexes in Internet usage can be considered in terms of availability and frequency of its use, it does appear that gender differences are most conspicuous when browsing Internet contents. Studies dealing with Internet contents showed that men took greater interest in finance, news, politics, sports, sex, science and humor, while women more frequently visited those websites that dealt with home, family and religion (Jackson et al. 2001; Wasserman and Richmond-Abbot 2005). Taking into consideration the most recent numerous studies, one can conclude that this topic causes great attention of researchers, from different aspects (Hargittai and Shaw 2015; Robinson et al. 2015; van Deursen and van Dijk 2015).

The Young and the Internet: Gender Differences

From the socioeconomic standpoint, the use of new technologies is important for certain categories of people, especially in the domain of finding employment, educational opportunities and political participation, as groups that do not use the new technologies can be largely deprived of many possibilities (Norris 2001). Certain categories are especially receptive to new technologies, like the young, those with better education, men, people from urban areas, open-minded and tolerant people (Ono and Zavodny 2003). The young have a very wide range of interests

concerning Internet contents. They frequently use Internet resources for different purposes, and most frequently to learn, maintain social contacts, solve everyday issues, and entertain themselves. Lately, the Internet is also increasingly used for commercial purposes.

Bearing in mind that the young, and especially students, are in the period of their lives which is dominated by learning activities, as well as that new technologies offer a great potential in this field, it is quite certain that the population of young people is largely oriented towards learning by using new technologies (Castaño-Muñoz et al. 2014). With regards to Internet usage for educational purposes, the path of research studies is a wiggly one, since the obtained results differ significantly with respect to the gender variable. Namely, some research studies until the year 2000 showed that men were more interested in the use of Internet content for the purposes of learning (Shashaani 1997; Leu 2000), while some later research studies indicated that women were in a hurry to catch up with men, that is, that there existed a tendency to reduce those differences, although men remained more interested in communication as a means of learning through the Internet (Cooper and Weaver 2003; Bråten and Stromso 2006). In some research studies it has been proved that gender differences did not play a significant role in learning via new technologies, as well as that students' performance was far more significantly influenced by self-perception, competence, previous experiences, efforts and commitment (Hargittai and Shafer 2006; Tekinarslan 2011; Litt 2013; van Deursen and van Diepen 2013; Aktürk 2014). In order to learn by means of new technologies, it is very important to be able to handle information. Learning by means of researching, browsing websites and handling information requires a set of cognitive skills, which include the ability to identify the point of research, to locate specific information resources, to select and organize relevant information, as well as to synthesize information from various sources into a meaningful whole (Zhou 2014).

Technologies assisted learning helps overcoming stereotypes regarding gender differences in the process of learning (Tomai et al. 2014). In favor of this, social networks, apart from their entertainment function, could serve as a very positive addition to classroom teaching because they offer more freedom of expression, thus help-

ing students easily overcome gender and other differences, and create possibilities for individual development and growth (Arqueroa and Romero-Frías 2013; Gewerc and Lama 2014). Popular social networks are diverse by structure and functions, and constantly appeal to the young who mostly use them to entertain themselves, socialize, make friends and learn. However, the young have different interests in social networks, as well as that there are gender differences regarding preference for certain contents (Thompson and Loughheed 2012; Haferkamp et al. 2012; Colás et al. 2013).

Research studies show that the young often prefer online video games in order to entertain themselves, connect with their friends and escape from reality (Liu et al. 2013). There are those who believe that there are gender differences in online video gaming, which is significant because they have become primary leisure activities of the young (Li et al. 2015).

One of the significant services that the Internet offers is e-commerce, which provides access not only to goods, but also to services such as online banking, tourism, traveling and accommodation, and is free of temporal and territorial restrictions (Yoon and Occena 2015). Although there are certain disagreements whether students constitute a target group for the use of e-commerce (Darley et al. 2010), there are a significant number of researchers who inquired into the behavior of student population with respect to e-commerce (Kang and Kim 2012; Lai et al. 2012; Kang and Johnson 2013).

In the following research the authors were interested in shedding light on the issue of students' Internet content preferences depending on their gender, with the aim of identifying possible differences, only to direct the students towards a more productive and appropriate Internet content usage. Also, this research is broadly defined so that, upon defining statistically significant differences, it could open a path towards some new and a more concrete research for the purposes of finding constructive solutions to overcome gender-based differences and reduce the gender gap.

METHODOLOGY

The main aim of this paper was to examine the attitudes of students regarding the use of Internet resources with regards to the gender

variable. In accordance with the defined aim, the following research tasks have been defined:

1. To examine the impact of gender as an independent variable on the use of Internet content for the purposes of education (reading or downloading online magazines/journals or information portals, browsing the Internet for the purposes of knowledge acquisition in any field, browsing the Internet in order to comply with study obligations, seeking information which relate to education, courses, software download)
2. To examine if there are gender differences in Internet content usage for the purposes of entertainment (participation in social networks, online video gaming, voice over IP, video conferencing, downloading music, films, games and other leisure contents)
3. To examine whether there are statistically significant differences regarding the relationship between gender and Internet usage for the purposes of paying online services (Internet banking, buying and selling goods or services online, using services which relate to traveling and accommodation)

The total sample included 2153 respondents constituting 875 male respondents and 1,278 female respondents. The research sample consisted of students who attended three university centers in Serbia, Macedonia and Bulgaria and who belonged to the following groups, namely, social sciences and humanities, technical and technological sciences, medical sciences and natural sciences. The sampling was carried out in several stages. First and foremost, the researchers determined the ratio of students from every group with respect to their respective faculty and gender, wherein it had been planned for every subsample to contain 800 students. However, since a certain number of respondents had not filled in the offered instruments in the part, which related to their gender as an independent variable, their data were disregarded, and so the sample was reduced to 2,153 respondents. The main research instrument was the Likert scale and it comprised statements that covered different fields. For the purposes of the research, the researchers used the part of the questionnaire that dealt with the attitudes of students towards the use of the Internet. For the purposes of data processing, the researchers used the descriptive statistics (frequencies and percentages), arith-

metic means, standard deviation, degree of freedom, as well as t-test for the purposes of ascertaining statistical significance. The research was conducted during 2012 and 2013, within which its realization in Serbia took place in December 2012, while in other two countries the research was performed in the beginning of 2013.

RESULTS

The representation and interpretation of the research results have been arranged into three units, in accordance with the set aims. The first unit presents the relationship between gender differences and the use of the Internet for educational purposes, the second unit provides insight into the results obtained by examining the relationship between students' gender differences and the use of online entertainment content, and the third unit offers an insight into the results obtained by researching into the relationship between gender differences and the use of ecommerce online services.

Gender and Education

By means of a t-test analysis and in view of respondents' gender, in the case of the second

research task that relates to Internet usage for the purposes of education, statistically significant differences have been identified in 4 out of 5 statements. As one can see from Table 1, male respondents exhibit a larger degree of agreement in comparison to the second examined category, which deals with the statements relating to Internet usage for the purposes of informing oneself, browsing the Internet to gain knowledge and complying with study obligations, as well as for the purposes of seeking information relating to education. The differences in the degree of agreement between the two categories included in the research, which became clear after calculating t-test results, showed that male students use the Internet more often as an additional means of education.

Gender and Entertainment

By calculating t-test within the Table 2, the authors obtained three statements with statistically significant differences out of 4, which were taken into consideration regarding the degree of agreement between male and female respondents in view of Internet content usage for the purposes of entertainment and leisure. The values of arithmetic means show that male respondents

Table 1: Gender differences in Internet content usage for the purposes of education

	Gender	AS	SD	t-test	df	p
Reading or downloading online magazines/journals or information portals	Male	1.51	0.65	0.160	799.484	0.046
	Female	1.50	0.61			
Browsing the Internet in order to acquire knowledge in any field	Male	1.39	0.58	2.277	1726.455	0.000
	Female	1.33	0.52			
Browsing the Internet in order to comply with study obligations	Male	1.42	0.59	3.968	1669.193	0.000
	Female	1.32	0.50			
Seeking information which relate to education, courses	Male	1.60	0.66	2.645	1777.526	0.005
	Female	1.52	0.62			
Downloading software	Male	1.82	0.77	-10.361	2131	0.345
	Female	2.17	0.73			

Table 2: Gender differences among students and Internet content usage for the purposes of entertainment and leisure

	Gender	AS	SD	t-test	df	p
Participation in social networks	Male	1.42	0.65	5.959	1605.822	0.000
	Female	1.26	0.53			
Online video gaming	Male	2.01	0.74	-5.533	1819.257	0.009
	Female	2.19	0.72			
VoIP, video conferencing	Male	1.90	0.71	2.012	2136	0.265
	Female	1.83	0.70			
Downloading music, films, video games and other entertaining contents	Male	1.41	0.60	1.500	1755.652	0.000
	Female	1.37	0.55			

agree more with the first and the fourth statement, which means that members of the male sex use the Internet for the purposes of participating in social networks and downloading entertainment-based content.

Female respondents, on the other hand, agree with the statement that is related to Internet usage for the purposes of online video gaming.

Gender and Ecommerce

The obtained t-test, df and p values show that in view of their gender, respondents significantly differ in terms of using Internet services relating to online banking (Table 3). The observed difference is justified by the obtained values of arithmetic means, which reveal that the agreement with the first statement within this unit is larger with female than with male students. The assumption that men use the Internet more often than women for the purposes of checking the account balance and making online transactions has been refuted after calculating the t-test. The researchers can consider these results relatively surprising because it is generally known that men tend to adopt and accept new technologies more easily.

DISCUSSION

Among the significant variables that draw the researchers' attention regarding Internet technology usage one can single out age, socio-economic status and gender. Research studies into gender differences indicate that there are very subtle gender differences, even since the appearance of the Internet, which changed and manifested in various forms during the years. Bearing in mind that modern technologies have become an essential part of today's life, it is very important to work on reducing the gender gap in order to secure a more equal relationship among the sexes. So far the studies have shown that students are an extremely receptive population

with respect to new technologies, as well as that conducting research into gender differences within this particular population is very important. As a population, students are extremely receptive to new technologies that they use in different manners and for various purposes. Previous research studies conducted in developed countries have shown that students spend a significant amount of time online and that they often transfer their real life to the online environment. Students' interests are diverse. They use the Internet for the purposes of learning, making and maintaining social contacts, entertaining themselves and performing ecommerce services. Bearing in mind the research tendencies regarding students' relationships towards the Internet in the developed countries, the researchers' intention was to examine the attitudes of the students in the Balkans towards Internet contents, since the aforementioned region aims at modernization and it is very specific in the social, economic and political respect.

This research aimed to establish the students' preferences in view of Internet contents usage for the purposes of education, entertainment and ecommerce. As to gender differences and Internet content usage for the purposes of education, male respondents showed a larger degree of agreement with the first responding category consisting of statements relating to Internet usage for the purposes of informing oneself, browsing the Internet with the aim of knowledge acquisition and complying with study obligations, as well as with the aim of seeking information which relate to education.

Similar results have been obtained during some other research studies, stating that there were gender differences in favor of men regarding Internet usage for educational purposes (Akturk and Sahin 2010; Jones et al. 2010; Van Deursen et al. 2015). In order to reduce gender differences among the students in the process of learning supported by new technologies, the authors

Table 3: Gender differences in using Internet services related to e-Commerce

	<i>Gender</i>	<i>AS</i>	<i>SD</i>	<i>t-test</i>	<i>df</i>	<i>p</i>
Online banking	Male	2.41	0.73	-3.744	1782.213	0.000
	Female	2.53	0.68			
Buying and selling goods and services via the Internet	Male	2.23	0.73	-3.736	2132	0.307
	Female	2.35	0.72			
Services related to travelling and accommodation	Male	2.06	0.72	1.251	2124	0.896
	Female	2.02				

suggest collaborative learning, that is CSCL (Computer Supported Collaborative Learning). It enables the students to share and create knowledge by means of a large number of collaborative activities, which support the development of problem-solving skills, decision-making and team building (Popov et al. 2014; Zhan et al. 2015). Finding a way to reduce gender gap in the process of learning is very important, since the future of education is greatly influenced by new technologies (Çaglar and Akçin 2016; González et al. 2016; Öznacar and Daglı 2016).

When it comes to gender differences and Internet contents usage for the purposes of entertainment and leisure, the values of arithmetic means show that male respondents agree to a greater extent with the statements which deal with spending time on social networks and downloading entertainment-based contents (films, music, games...). On the basis of the obtained results one can conclude that men are more inclined towards making friendships via the Internet, as well towards using the Internet for the purposes of entertainment. These results are compatible with the results of other research studies that led to statistically significant differences regarding gender structure of social networks users, and cyber communication (Sussman and Tyson 2000; Lin and Lu 2011; Traud et al. 2012; Putzke et al. 2014; Maier et al. 2015). Female respondents, on the other hand, expressed stronger agreement only with the statement concerning Internet usage for the purposes of online video gaming. While some earlier research studies showed that men were more inclined towards online video gaming (Li and Kirkup 2007; Lucas and Sherry 2004; Ogletree and Drake 2007; Chou and Tsai 2007), some more recent research studies show that the situation is changing in favor of women (Hou 2012). The latest research studies show that the trend has entirely changed in favor of women (Chen 2014; Fox and Tang 2014). In accordance with this trend one can assert that the results of the research contribute to breaking down of prejudice stating that men use the Internet more often for the purposes of online video gaming. The fact that should also be mentioned is that phoning via the Internet is equally resorted to by the respondents of both sexes.

Although the research into students' gender differences in view of ecommerce may be debatable because students do not seem to be the most suitable population due to their lack of per-

sonal income, this area has also been covered by the research with the aim of determining the general situation and tendencies relating to Internet usage for these purposes.

By researching gender differences in view of Internet usage for the purposes of online banking it has been ascertained that there is a larger amount of agreement among female students with respect to the statement that deals with Internet usage for the purposes of online banking. In contrast, there are no statistically significant differences regarding the statements that deal with online buying and selling, as well as with the services of traveling and accommodation. In contrast, some research studies confirm that women use ecommerce services more than ever (Hernández et al. 2011). In favor of this stance one can produce the research (Bae and Lee 2011), which dealt with gender differences as a basis of consumers' perception of ecommerce and the obtained results showed that women are more motivated for online purchase, as well as that they are more cautious and generally more interested in ecommerce. Recent studies conducted on the general population are also in compliance with the results presented in this paper, and they show that researching the impact of gender differences on the ecommerce behavior has great importance (Pascual-Miguel et al. 2015; Nadeem et al. 2015).

CONCLUSION

The conducted research represents an objective image of the current state regarding the preferences of students in the Balkans with respect to Internet usage in view of their gender. As a limiting factor of this research one can state that the research problem has been broadly defined, which enables only a general overview of certain categories without going deeper into the details of each particular research question. For example, social networks have generally been observed through one item, and bearing in mind that significant statistical differences have been obtained, one opens certain issues for further research studies that should deal with individual social networks, as well as with the motives for their use. In that context, the obtained results can represent a good basis for some future research in which the research topics could be much more precise and concrete. That would contribute to a much better insight into subtle

gender differences of a student population in view of Internet usage.

RECOMMENDATIONS

Bearing in mind that the results of this research have shown that there were gender differences regarding education, it is the researchers' suggestion for university professors to motivate students to use more technology when it comes to learning and to support collaborative learning, which contributes to the reduction of gender differences among students. Students should be encouraged to use the new services that provide support for cooperation and exchange of information, such as an online forum, blog, micro-blog, WIKI, SNS, Moodle or MOOC. The recommendation for future research studies is to focus on the issues of collaborative learning that should be promoted more in the Balkans.

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Paper received for publication on January 2016
Paper accepted for publication on May 2016