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Gender differences and areas of Internet behavior in seven years' perspective

Abstract: The objective of the study was the comparative analysis of areas of Internet behavior (use of Internet, relations and Internet Addiction) with regards to gender in seven years' perspective. The study was conducted in two stages (2005 and 2012) among Polish students ($N = 452$). Results showed significant gender differences in the use of Internet. The use of Internet is no longer predictor of Internet Addiction in both men and women. The higher number of contacts limited to Internet was a predictor of Internet Addiction in both men and women, but lower self-esteem in women only. Men were more prone to Internet Addiction in comparison with women and this tendency is on the rise.

Keywords: Internet addiction, use of Internet, gender differences, self-esteem, prospective studies

Introduction

Internet plays a vital role in interpersonal functioning. Nevertheless, Internet is not perceived as gender-neutral (Heimrath & Goulding, 2001). Despite the democratization of Internet access, there are pronounced differences in the use of Internet in men and women.

The objective of the study was the comparative analysis of areas of Internet behavior with regards to gender in 7 years' perspective. The study was conducted in two stages among Polish students ($N = 452$). The first stage took place in 2005, the second in 2012.

Among numerous studies and issues associated with the Internet's influence upon human behavior, the following are considered as chief: psychological determinants of the use of the Internet, relationships in cyberspace, and Internet addiction (Augustynek, 2010).

The analysis of the Internet's use statistics in 2005 and 2012 in Poland indicates that the number of those who use it once a week, i.e. the least active users, increased two-fold (CBOS, 2012). In addition, users spent more time online a week (CBOS, 2012; Dembińska & Ochnik, 2014).

Regardless of the growing Internet's use trend, the youngest group of users (aged 18–24) remained the most active online – 93% of them actively used the Internet (CBOS, 2012). Students are particularly prone to Internet addiction (Christakis, Moreno, Jelenchick, Myaing, &

Zhou, 2011). Therefore, studies indicating determinants of Internet behavior and Internet addiction among this particular group are vital.

Over the period of 7 years, the way students used the Internet changed (Dembińska & Ochnik, 2014). Despite the use becoming heavier, the number of the addicted did not change significantly.

The analysis of Internet behavior indicated that gender is a critical determinant due to the fact that the Web is not perceived as gender-neutral (Heimrath & Goulding, 2001). The model of Internet's use, as a modern technology, is considered more masculine than feminine (Herring, 2000). As a modern technology, the Internet has attracted users exhibiting specific characteristics. Initially, the users consisted of young, educated, wealthy men, who resided in cities and did not belong to racial or national minorities (Herring, 2000). However, in 2000s, this initial trend began to fade (CBOS, 2012). Despite Internet access becoming widespread, its use is diversified with regards to gender.

As a consequence, changes of Internet behavior may be shaped in time, which is critical for the development of the technology, and via gender as well.

Areas of Internet behavior in seven years' perspective

In 2005, the number of regular Internet users in Poland amounted to 27% and reached 54% in 2012. The retired, farmers and pensioners used the Internet the least

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frequently. Invariably, age and gender constitute the key Internet use factors. Students were the most active group. Good financial standing was also significant in this respect. In 2012, the vast disproportion with regards to the place of residence diminished (CBOS, 2012).

In 2012, students were active in forums, used e-mails, searched for information, aimlessly surfed the web, and sought pornography or cybersex. The greatest discrepancy emerged with regards to online shopping (Dembińska & Ochnik, 2014). In 2005, merely 4% of all respondents declared shopping online. In 2012, the percentage amounted to 72% (CBOS, 2012). On the other hand, students used the Internet for chatting less frequently (Dembińska & Ochnik, 2014). This is a consequence of the decline in the popularity of chat services (e.g. IRC, Gadu-Gadu), and boom in social media, which manifest a slightly different character.

Approximately a quarter (23%) of Internet users made friends online in 2005. The percentage remained largely unchanged in 2012 (CBOS, 2012). The fact that the percentage of those meeting the criteria of Internet addiction in 2005 amounted to 12% and in 2012 to 9% is noteworthy. However, the difference is not statistically significant. It is estimated that approx. 6–14% of the population manifest symptoms of Internet addiction (DeAngelis, 2000).

Therefore, despite growing Internet access and flourishing online activity, the percentage of those prone to the addiction remained the same. However, the way the Internet is used did change, especially with regards to communication and commercial activities.

Areas of Internet behavior in men and women

Women use and are interested in the Internet to a considerable extent, but not as much as men are (Heimrath & Goulding, 2001; Durndell & Haag, 2002). American statistics indicate that in 1990s women used the Internet significantly less frequently. However, the difference faded after 2000 (Ono & Zavodny, 2003). In 2000–2001 a significant growth in the number of women Internet users was recorded. In addition, a similar trend was observed with regards to the number of Internet home users when compared to men. Studies indicate no differences in Internet access and use with regards to gender, but highlight that once women become active online they use the Internet with lower frequency and intensity than men (Ono & Zavodny, 2003).

Consequently, some older studies emphasize the existence of differences in frequency and intensity of Internet use with regards to gender (Bimber, 2000; Teo & Lim, 2000). On the other hand, more contemporary ones indicate that the trend is fading or that no such differences exist (Ono & Zavodny, 2003).

Use of the Internet and Gender

Despite Internet access becoming increasingly democratized, the use of the Internet by men and women differs. Men use the Internet mainly for entertainment and leisure, whereas women use it predominantly for interpersonal communication and in support of education (Weiser,

2004). Kimberly Young (2004) highlights that men select online activities associated with dominance and the feeling of control. These conditions are met by online games. In addition, men realize their sex fantasies by viewing pornographic sites and searching for romance in cyberspace. Women, on the other hand, search for close friendship and prefer anonymous communication which enables their physical appearance to remain hidden. They also avail themselves of support offered by being a part of an online community and perceive the membership as an opportunity for expressing their emotions (Young, 2004). Studies indicate that women communicate by means of online social media, emails, video calls, texting and mobile phones significantly much more frequently than men (Kimbrough, Guadagno, Muscanell, & Dill, 2013). As a consequence, communication seems to lie within the online domain of women (Jackson, Ervin, Gardner, & Schmitt, 2001).

However, studies comparing a British and Chinese group (Lia & Kirkup, 2007) revealed that it is men who communicate by means of emails more frequently. Apart from differences determined by gender, the influence of Internet users' culture exerts significant impact upon the issue.

The fact that characteristic features of pioneer users of new technologies considerably differ from those manifested by subsequent users is noteworthy. The growing number of features making the reception of technologies more attractive is connected with the intensification and greater frequency of their use. Therefore, the dominant number of Internet features addressing men translated into fewer features which make the use of the Internet attractive for women (Herring, 2000), which, in turn, may have been considered a barrier in using the technology. Focus on typically "masculine" user resulted from stereotypisation of women as users, aggressive forms of computer games, ubiquity of online pornography and few women in technology management (UNDP, 2000).

Along with the growth in the areas of social life where the Internet has become popular, its users have also changed. The change in the way the Internet is used as a communication tool, as well as a virtual shopping center, which in numerous cultures is perceived as traditionally feminine, resulted in a significant increase in the number of women going online (Dholakia, Dholakia, & Kshetri, 2004). The popularity of online social media played a critical role in shaping Internet users' activities. At present, it is women who are more active on Facebook than men (CBOS, 2012; PEW, 2016). Women have become more active Internet users. Not only are they recipients of the content addressing them, but also creators. In Poland, women constitute 85% of bloggers (BLOG Media, 2014).

Therefore, it may be stated that overtime, the Internet expanded and became more attractive not only for men but for women as well.

However, with regards to online relations, clear-cut gender differences exist. Men form online relations twice as frequently as women (32% vs. 14%). On the other hand, women are much more willing to maintain relationships in

this way. Men aged 18–24 were the most active in initiating online contacts. Users aged 25–34 arranged meetings in person with partners met online the most frequently (CBOS, 2012).

Internet Addiction and Gender

Internet addiction and Internet use are defined in literature as Problematic Internet Use (PIU) (Dell'Osso, Altamura, Allen, Marazziti, & Hollander, 2006). The present study featured Young Internet Addiction Test (IAT), which constitutes one of the methods for PIU assessment (Moreno, Jelenchick, Cox, Young, & Christakis, 2011).

Those addicted to the Internet, in comparison with the non-addicted, use it for interacting with others significantly more frequently (discussion groups, online games, chat rooms, email) (Young, 2004; Kormas, Critselis, Janikian, Kafetzis, & Tsitsika, 2011; Kittinger, Correia, & Irons, 2012; Fioravanti, Dettore, & Casale, 2012; Durkee, Kaess, Carli, Parzer et al., 2012). Those searching for pornographic, sexual and erotic content are particularly prone to Internet addiction (Young, 2004; Casale & Fioravanti, 2011).

In the group of students, predictors of Internet addiction encompass: low self-esteem, considerable number of contacts limited to the Internet, prolonged time spent online weekly, and more frequent use of the Internet in search of pornographic content (Dembińska & Ochnik, 2014). Among psychological determinants of Internet addiction, the level of self-esteem seems of particular significance (Stiegr & Burer, 2010; Wartberg, Sack, Petersen, & Tomasius, 2011). Low self-esteem is associated with the risk of Internet addiction (Niemz, Griffiths, & Banyard, 2005). In addition, self-esteem combined with potential Internet addiction, is associated with depression (Younes et al., 2016; Bahrainian et al., 2014). This paradox has been partly explained by individual differences. For extroverts and those with substantial social support, Internet use brought positive outcomes. The outcomes were negative for introverts and those with insufficient social support (Kraut et al., 2002).

Gender differences are reflected in behavioral patterns associated with behavioral addictions. Even though gender differences are disputable with regards to Internet addiction (Lin & Tsai, 2002), it is considered that men are more likely to become addicted to the Internet (Chou & Hsiao, 2000). However, the analysis of individual symptoms e.g. time management issues, compulsive Internet use, indicates that these are proportionate for both genders (Chen, 2000).

In addition, studies indicate that male students are more prone to the addiction when compared with their female counterparts (Chou, Condor, & Belland, 2005; Widyanto & Griffiths, 2006). The excessive use of pornographic sites and online gaming addiction, which manifest in men more frequently, are listed as risk factors (Young, 2004; Ybarra & Mitchell, 2005; Ko et al., 2005; Tsai et al., 2009). Lower intensity of the Internet's use by female students is explained by greater support and familial attention than that offered to young men, which results in a greater degree of control and limitation of time spent online (Tsai et al., 2009).

On the other hand, female students often live outside their family home, which contradicts the explanation.

However, women prove to be more prone to Facebook addiction, which at the same time, is associated with lower age (Przepiórka & Błachnio, 2016). Such results are connected with a greater attractiveness of social media's content for women, which translates into their more intensive activity on FB when compared with men (CBOS, 2012; PEW, 2016).

Materials and Methods

Dynamic changes in Internet users' characteristics and increasing availability of the Web prompted us to analyze changes in areas of Internet behavior, which include: (1) use of the Internet and its psychological determinants, (2) relations between an individual and cyber community, and (3) predispositions for Internet Addiction. Due to the fact that the Internet's changes pertain to it transforming from an environment attractive for men into one attractive for women, gender has become a key variable.

The analysis was conducted by means of the Internet Perception Scale (Dembińska, 2005), which enables the use of the Internet, relations with cyber community, and intensification of Internet addiction on the basis of Young's (1996) criteria, to be determined. The second study (2012) encompassed an additional component evaluating general self-esteem by means of Rosenberg Self-Esteem Scale (SES) as adapted by Mariola Łaguna, Kinga Lachowicz-Tabaczek, and Irena Dzwonkowska (2007).

Studies were conducted in two stages among 452 students of economics. Both Study 1 in 2005 and Study 2 in 2012 are characterized by the same men-women ratio (Table 1).

Table 1. Number of participants in Study 1 and Study 2

	Study 1 (2005)		Study 2 (2012)		Total	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Women	137	62	143	62	280	62
Men	83	38	89	38	172	38
Total	220	100	232	100	452	100

Due to the fact that respondents consisted of fresh-men full time students, the average age for men and women in the two studies equaled 20. Students of IT-related areas were excluded from the sample due to the subject of the study. The study was conducted with respect for confidentiality and anonymity. Studies made use of the traditional pen and paper approach.

Results and discussion

The variables constituting the use of Internet were: time spent online every week (Internet weekly), chats, entertainment, discussion groups, pornography, e-mail,

Table 2. Descriptive statistics of areas of Internet behavior and gender in Study 1 and Study 2

	Study 1 (2005)		Study 2 (2012)	
	<i>M (SD)</i>			
	Women <i>N</i> = 137	Men <i>N</i> = 83	Women <i>N</i> = 143	Men <i>N</i> = 89
Internet weekly ^a	3.34 (1.81)	4.05 (1.84)	5.35 (1.58)	5.84 (1.77)
Chats ^b	2.37 (0.79)	2.48 (0.74)	2.21 (0.75)	2.18 (0.79)
Entertainment ^c	2.07 (0.75)	2.43 (0.70)	2.15 (0.72)	2.39 (0.67)
Discussion groups ^b	1.39 (0.60)	1.49 (0.65)	1.52 (0.63)	1.71 (0.76)
Pornography ^b	1.06 (0.29)	1.32 (0.61)	1.06 (0.24)	1.58 (0.75)
E-mail ^b	2.39 (0.69)	2.45 (0.65)	2.80 (0.42)	2.46 (0.64)
Online shopping ^b	1.24 (0.43)	1.31 (0.52)	1.94 (0.58)	1.83 (0.66)
Information ^b	2.65 (0.49)	2.64 (0.53)	2.83 (0.83)	2.73 (0.45)
Aimless surfing ^b	1.58 (0.60)	1.70 (0.66)	1.90 (0.65)	1.91 (0.73)
Contacts limited to Internet ^c	3.50 (1.72)	3.67 (1.96)	3.10 (1.70)	4.11 (1.96)
Self-esteem			29.58 (4.23)	29.81 (5.05)
Internet Addiction symptoms	2.12 (1.58)	2.50 (1.74)	2.13 (1.26)	2.84 (1.74)

^a scale 1–9: 1 – less than 1 hour, 2 – from 2 to 4 h, 3 – from 4 to 8 h, 4 – from 9 to 12 h, 5 – from 13 to 15, 6 – from 15 to 30, 7 – from 30 to 40, 8 – from 40 to 60, 9 – over 60 hours;

^b scale 1–3: 1 – rarely, 2 – sometimes, 3 – often/always;

^c scale 1–7: 1 – 0, 2 – from 1 to 2, 3 – from 5 to 5, 4 – from 6 to 10, 5 – from 11 to 20, 6 – from 21 to 50, 7 – over 50.

on-line shopping, information and aimless surfing. The relations between an individual and cyber community have been operationalized as number of contacts limited to Internet. Self-esteem has been introduced to a model as a psychological predisposition for Internet Addiction in Study 2 (Table 2).

Effects of gender in 7 years' perspective in areas of Internet behavior

The statistical analysis was conducted by means of SPSS 22 software. Results were analyzed with the use of analysis of variance- a two-way ANOVA. Due to the fact that results of a section of the study have already been presented in literature (Dembińska & Ochnik, 2014), results for gender, and gender- stage of the study interaction for Internet Addiction, number of contacts limited to the Internet, and ways the Internet is used, will be presented below.

Time spent online every week

- Effect of gender proved to be statistically significant ($F_{1,451} = 12.80, p < .001, \eta^2 = .03$). Men ($M = 4.94, SD = .13$) had more contacts limited to the Internet than women ($M = 4.34, SD = .10$). The impact of gender may be considered low.
- Effect of gender- stage of the study interaction proved statistically insignificant ($p > .001$).

Men spent more time a week online than women. The tendency was maintained over the period of 7 years. The

fact that the average time of the Internet's use increased with regards to both men and women is noteworthy.

Chatting

- Effect of gender, and gender-stage of the study interaction proved statistically insignificant ($p > .05$). Results indicate that interest in online chatting over the period of 7 years does not differ with regards to both men and women. Therefore, regardless of the decline in the popularity of online chatting among students (Dembińska & Ochnik, 2014), the use of the Internet is not diversified as far as gender is concerned. Over the period, men used the Internet for chatting with the same frequency as women.

Entertainment

- Effect of gender proved statistically significant ($F_{1,451} = 19.07, p < .001, \eta^2 = .04$) indicating that men ($M = 2.41, SD = .05$) used the Internet for entertainment more frequently than women ($M = 2.11, SD = .04$). The impact of gender may be considered low.
- Effect of gender- stage of the study interaction proved statistically insignificant ($p > .05$).

According to the above, men used the Internet for entertainment more frequently than women, regardless of the stage of the study. These results acknowledge the expected greater interest of men in online entertainment.

Discussion Groups

- Effect of gender proved statistically significant ($F_{1,451} = 5.30$, $p = .022$, $\eta^2 = .01$) and indicated that men ($M = 1.60$, $SD = .05$) were members of discussion groups more frequently than women ($M = 1.46$, $SD = .39$). The impact of the effect may be considered low.
- Effect of gender-stage of the study interaction proved statistically insignificant ($p > .05$).

Results indicate that men were members of online discussion groups more frequently. The trend did not change over the 7-years' period. As a consequence, men were more willing to engage in discussions and express their views in these groups, which may be explained by men's lower conformism. Active participation in an online discussion forum entails expressing one's views. Therefore, it may be considered as a "public" activity, which is strictly connected with the masculine stereotype (Eagly & Steffen, 1986).

Pornography

- Effect of gender proved statistically significant ($F_{1,451} = 74.22$, $p < .001$, $\eta^2 = .14$) and indicated that men ($M = 1.45$, $SD = .04$) used the Internet in search of pornography more frequently than women ($M = 1.06$, $SD = .28$). The impact of the effect may be considered average.
- Effect of gender-stage of the study interaction proved statistically significant ($F_{1,451} = 7.73$, $p = .006$, $\eta^2 = .02$). In the second study, men ($M = 1.32$, $SD = .32$) used the Internet in search of pornography more frequently than men in the first study ($M = 1.44$, $SD = .04$) and women in both Study 1 ($M = 1.06$, $SD = .04$) and Study 2 ($M = 1.06$, $SD = .04$). The impact of the effect may be considered low.

In accordance with the above, men used the Internet in search of pornography more frequently than women. Among men, the group of people interested in online pornography grew dynamically in the 7-years' period. Among women, the level of the Internet's use for that purpose remained unchanged.

Studies indicate that pornography consumption is associated with masculinity, previous exposure to pornographic content, more frequent masturbation, and younger age of respondents (Hald, 2006). These factors may explain male students' growing interest in pornography in comparison with permanently low interest in that area with regards to female students.

E-mail

- Effect of gender proved statistically significant ($F_{1,451} = 6.03$, $p = .014$, $\eta^2 = .01$) and indicated that women ($M = 2.60$, $SD = .04$) used emails more frequently than men ($M = 2.45$, $SD = .05$). The impact of the effect may be considered low.
- Effect of gender- level of the study interaction proved statistically significant ($F_{1,451} = 11.19$, $p = .001$, $\eta^2 = .02$). It was observed that women in Study 2 ($M = 2.80$, $SD = .05$) used emails more frequently

than women in Study 1 ($M = 2.39$, $SD = .05$) and men in both Study 1 ($M = 2.45$, $SD = .07$) and Study 2 ($M = 2.46$, $SD = .06$). The impact of the effect may be considered low.

Results indicate that women use emails significantly more frequently than men. The frequency of the use over the 7-years' period increased dynamically among women. With regards to men, it did not change significantly. As far as the purpose of emails is concerned, which is to maintain broad and distant social relations among women (Boneva & Kraut, 2002), and social gender roles linking female roles with the domain of interpersonal relations more closely than male roles, the fact that women used emails more frequently may prove that online presence may be used for building and maintaining interpersonal relations.

Online shopping

- Effect of gender, and gender- stage of the study interaction proved statistically insignificant ($p > .05$).

Results indicate that over the 7-years' period, both women and men used the Internet for online shopping with the same frequency. Despite the fact that numerous cultures perceive shopping as a feminine domain (Dholakia et al., 2004), in case of young adolescents, the issue is not gender-diversified. However, a negative relationship between the time spent online and frequency of online shopping ($r_s = -.24$, $p = .02$) was observed in Study 2. As far as women are concerned, no significant relationship between the two variables was observed ($p > .05$). Therefore, women shop regardless of the time spent online. As for men, the more intensely the Internet is used, the more seldom online shopping is pursued.

Seeking information

- Effect of gender, and gender- stage of the study interaction proved statistically insignificant ($p > .05$).

Over the 7-years' period, men and women did not differ with regards to the frequency of information seeking, which increased considerably in Study 2 (Dembińska & Ochnik, 2014).

Aimless surfing

- Effect of gender, and gender- stage of the study interaction proved statistically insignificant ($p > .05$).

Over the 7-years' period, men and women did not differ in the frequency of aimless surfing, which increased in Study 2 (Dembińska & Ochnik, 2014).

Number of contacts limited to the Internet

- Effect of gender proved statistically significant ($F_{1,448} = 12.29$, $p = .001$, $\eta^2 = 0.02$) and indicated that men's contacts ($M = 3.89$, $SD = .14$) were more limited to the Internet than women's ($M = 3.30$, $SD = .11$). The impact of the effect may be considered low.
- Effect of gender – stage of the study interaction proved statistically significant ($F_{1,451} = 18.62$, $p = .018$, $\eta^2 = .01$) and indicated that men in Study 2 ($M = 4.11$, $SD = .19$) limited their contacts to the Internet more frequently than men ($M = 3.67$, $SD = .20$) and women

($M=3.50, SD=.15$) in Study 1 and women in Study 2 ($M=3.10, SD=.15$). Women in Study 2 limited their contacts to the Internet significantly less frequently than women in Study 1. The impact of the effect may be considered low.

As a consequence, men's contacts were more limited to the Internet than women's. In addition, over the 7-years' period, the number of such contacts for men increased, whereas for women it decreased. Moreover, even though the strength of the relationship may be defined as weak, among women, time spent online was positively correlated with the number of contacts limited to the Internet ($r_s=.25, p=.03$). On the other hand, among men, the number of contacts did not significantly correlate with time spent online ($p>.05$).

Therefore, among men, regardless of time spent online, the number of contacts pursued only online increased. Among women, a reverse mechanism was observed. Over time, the number of contacts pursued only online decreased, which may be explained by a greater tendency for women to maintain online relations and transfer them to the real world (CBOS, 2012). However, despite the above tendencies, the more time women spent online (in Study 2), the greater the possibility for these contacts to become limited to the Internet occurred.

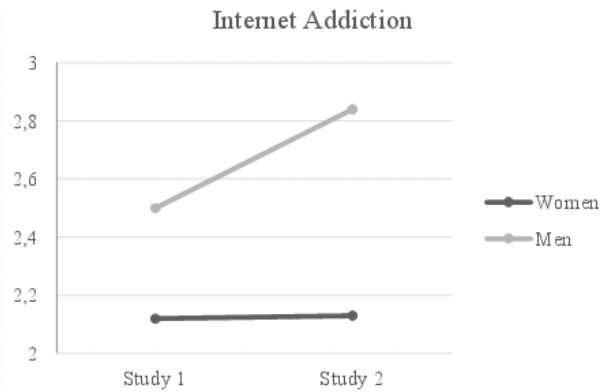
At the same time, the more women engaged in contacts limited to the Internet, the more frequently they communicated via chats ($r_s=.18, p=.03$), and men used emails less frequently ($r_s=-.23, p=.03$). As a consequence, in case of contacts limited to the Internet, women intensified the frequency of communication, and men decreased it.

Internet addiction vs. gender

– Effect of gender proved statistically significant ($F_{1,448}=12.90, p<.001, \eta^2=.03$) and indicated that men ($M=2.67, SD=1.74$) manifested stronger symptoms of Internet addiction than women ($M=2.13, SD=1.42$). The impact of the effect may be considered low. The interaction of gender and the stage of the

study did not reach the required level of statistical significance ($p>.05$) (Figure 1).

Figure 1. Results of a two-way ANOVA for gender-stage of the study interaction for Internet addiction



Therefore, men were characterized by a higher level of Internet addiction than women. On the other hand, the level of Internet addiction among women and men remained unchanged, thus it may be defined as relatively constant.

A further step of the analysis encompassed determining predictors of Internet addiction among women and men over the 7-years' period. Analyses of linear regression by means of stepwise regression were conducted. Regression models proved significant (Table 3).

While the use of the Internet in Study 1 (2005) allowed Internet addiction among women (aimless surfing, chats) and men (entertainment) to be predicted, in Study 2 it proved to be an insignificant predictor. Even though the intensity of the predictor waned in the second stage, as far as women are concerned, both in Study 1 and Study 2, the number of contacts limited to the Internet was determined to be critical for predicting Internet addiction. For men, the number of contacts limited to the Internet was not significant in Study 1. However, even though in merely 4%, it became the sole predictor explaining Internet addiction in Study 2. When interpreting this change, the

Table 3. Regression analyses of Internet addiction among women and men in Study 1 and Study 2

	Study 1 (2005)						Study 2 (2012)					
	Women N=137			Men N=83			Women N=137			Men N=83		
	β	t	p	β	t	p	β	t	p	β	t	p
Contacts limited to the Internet	.34	4.31	<.001				.25	3.21	.002	.23	2.20	.031
Aimless surfing	.30	3.84	<.001									
Chats	.18	2.25	.26									
Entertainment				.43	4.16	<.001						
Self-esteem							-.27	-3.42	.001			
F	15.29		<.001	17.34		<.001	11.33		<.001	4.82		.031
R^2	.24			.17			.13			.04		

growth in the number of contacts limited to the Internet for men over the 7-years' period, and its decline for women, ought to be taken into account. Self-esteem, which was introduced as a psychological variable in Study 2, proved to be a significant predictor among women. On the other hand, it did not allow for Internet addition among men to be predicted.

Self-esteem and gender in areas of Internet behavior

Self-esteem correlates negatively among women with online search for information ($r_s = -.18, p = .031$), and aimless surfing ($r_s = -.20, p = .017$), and positively with Internet addiction ($r_s = .35, p < .001$). As a consequence, the lower the self-esteem, the more frequently the Internet is used in search of information, for aimless surfing, and the stronger the manifestation of Internet addiction symptoms becomes. On the other hand, for men, the level of self-esteem is positively correlated with time spent online every week ($r_s = .25, p = .019$). The higher the self-esteem among men, the more time they spend online. Therefore, among men, the Internet has become a domain enhancing the positive perception of self.

Conclusions

The relationship between Internet addiction and intensity of online relations has already been established. However, our studies indicate that it is relations limited to the Internet, i.e. those which are not pursued in reality in particular, which are critical for the intensity of Internet addiction regardless of users' gender. In spite of the above, it was men who proved to be more prone to Internet addiction in comparison with women. This tendency is on the rise.

Differences between young women and men with regards to Internet addiction's predictors can be observed in relation to the role of self-esteem. Among men, a higher level of self-esteem was associated with the frequency of the Internet's use, whereas among women, it became the predictor of Internet addiction. Therefore, the relationship between self-esteem and areas of Internet behavior indicates that the Internet is positively correlated with self-esteem among men, whereas for women the correlation is negative.

As far as young men's preferences for initiating online contacts are concerned, it may be inferred that such a mode of interpersonal online functioning enhances their self-esteem, thus exerts positive impact. When a reference to classical interpretations of masculine Internet behavior, as a drive for dominance and the feeling of control, is made (Young, 2004), more frequent use of the Internet enables young men to realize their needs, which is indicated by enhanced self-esteem. Therefore, functioning in the Internet improves men's self-esteem. As a consequence, it is not a significant predictor of potential Internet addiction in this group.

For women, as those particularly inclined towards online interpersonal communication (Weiser, 2004), the number of contacts limited to the Internet constitutes

a vital predictor of Internet addiction. However, at the same time, low level of self-esteem is as important with regards to the prediction. Therefore, women may be particularly prone to Internet addiction when they search for support and acknowledgement of their self-esteem on the Web, which is enabled by online interactions. Simultaneously, women's characteristic use of the Internet in order to search for information is also associated with lower self-esteem. Consequently, women search for information online when they manifest a negative attitude towards self, which is associated with insecurity.

When considering areas of Internet behavior over the period of 7 years, it may be stated that men spend more time online than women, and search for entertainment and pornography more frequently. Their contacts are limited to the Internet more frequently, which constitutes a key predictor of Internet addiction. Higher exposure to pornographic content and a growing number of contacts limited to the Internet seem to be particularly disturbing as far as building healthy relations outside the Internet is concerned.

Results pertaining to Internet addiction highlight a growing significance of interpersonal relations and lower importance of the Internet's use. The decline in the significance of the use may be explained by the Internet's increased popularity and more frequent use.

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