

Συνέδρια της Ελληνικής Επιστημονικής Ένωσης Τεχνολογιών Πληροφορίας & Επικοινωνιών στην Εκπαίδευση

Τόμ. 1 (2018)

11ο Πανελλήνιο και Διεθνές Συνέδριο «Οι ΤΠΕ στην Εκπαίδευση»



The role of gender in digital games use

Evdokia Christia, Evangelia Exarchou, Iliana Zioga, Maria Kitsaki, Konstantinos Panakoulis, Eugenia Toki, Jenny Pange

The role of gender in digital games use

Evdokia Christia¹, Evangelia Exarchou¹, Iliana Zioga¹, Maria Kitsaki¹

Konstantinos Panakoulas¹, Eugenia Toki², Jenny Pange¹

evdokiach23@gmail.com, evanexar95@gmail.com, lianazioga@yahoo.gr,
marykitsaki@gmail.com, kpanakoulas@gmail.com, jpagge@cc.uoi.gr, toki@ioa.teiep.gr

¹Laboratory of NT and Distance Learning, Dept. of Early Childhood Education, University of Ioannina, Greece

²Dept. of Speech and Language Therapy, Technological Educational Institute of Epirus, Ioannina, Greece

Abstract

Digital games are now part of our everyday life. Children and youngsters are using digital games. The purpose of this study is to investigate, whether there are any differences between males and females when they choose to play or not digital games. Our sample consisted of 137 undergraduate students from the University of Ioannina (males:65, females:72). The data were collected using a questionnaire. This research is in progress and according to our preliminary findings, 24,8% of the students totally chose multiplayer digital games for enjoyment where 20,4% of students did not prefer them at all. It was also found that 21,9% of students fully choose digital simulation games for enjoyment and 18,2% of students did not prefer them at all. In addition, a statistically significant difference across genders (males vs. females) was identified regarding their preference/use of (i) multiplayer digital games and (ii) digital simulation games.

Keywords: digital games, gender, multiplayer games, simulation games

Introduction

Digital games are widespread among all ages, starting from children, youngsters up to adults. The main issue which arises from the use of digital games is if there is a gender difference regarding their preferences. There are some studies supporting the gender differences regarding overall preferences for digital games and other studies which declare no gender differences regarding overall preferences for digital games.

There are also studies supporting gender difference among children and there are also studies declaring gender difference are present among students (Kucirkova, Littleton, & Kyparissiadis, 2018; Lekka, 2017). The gender difference is important and specifically among young people (Nietfeld et al., 2014). Especially, males prefer to use digital games more than females (Lekka, 2017, Winn & Heeter, 2009). In other studies there is no difference among males and females (Shen, Ratan, Cai, & Leavitt, 2016). According to Prensky (2001) there is a gender difference among males and females who use digital games but more and more females play digital games (Prensky, 2001).

The role of gender is also important and in recent studies it was found that males prefer multiplayer digital games (Tsai, 2017). In other studies it was found that males prefer more than females to socially interact in multiplayer games (Vermeulen, Van Looy, Courtois, & De Grove, 2011).

More specifically the purpose of this study is to investigate whether there are differences between males and females in their preferences of particular genres of digital games,

multiplayer digital games and digital simulation games (games such as Sims which contain a simulative with reality environment).

Materials and Methods

The sample consisted of 137 postgraduate students from the University of Ioannina. Particularly, 65 males (47,4%) and 72 females (52,6%) participated in the study. The mean age was $22 \pm 3,7$ years old.

The data were collected using a questionnaire with the first part including questions concerning demographic information (gender, age), and the second part including questions on preferences of digital game players and uses of digital games. In the second part, each question was Likert- weighted with seven possible answers (1.00=agree, 7,00=disagree).

The main hypotheses of this study were:

- Firstly, to investigate whether there is or not a gender difference among students for multiplayer or single player digital games.
- Secondly, to investigate whether there is any gender difference among students for choosing digital simulation games.

Results - Discussion

The results of the study reported on postgraduate students' preferences on using multiplayer digital games and digital simulation games.

Specifically, 24,8% of students reported that the totally preferred multiplayer digital games and 20,4% did not prefer them at all. Almost half of the students, 49,6%, stated frequent use on multiplayer digital games, 8,8% average and 41,6% infrequent (mean $3,839 \pm 2,286$) (Table 1).

Concerning students' preferences on digital simulation games, 21,9% of the sample stated their full preference on playing them. On the contrary, 18,2% stated that they do not prefer to play digital simulation games at all. Nearly half of the undergraduate students, 47,4%, reported frequent use playing digital simulation games, 13,1% reported average use and 41,6% reported infrequent use (mean $3,839 \pm 2,184$) (Table 2).

Table 1. Frequencies of preference about multiplayer digital games

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	34	24,8	24,8	24,8
	2,00	15	10,9	10,9	35,8
	3,00	19	13,9	13,9	49,6
	4,00	12	8,8	8,8	58,4
	5,00	13	9,5	9,5	67,9
	6,00	16	11,7	11,7	79,6
	7,00	28	20,4	20,4	100,0
	Total	137	100,0	100,0	

According to the results of the study, there is a statistically significant difference between males and females regarding their preference for multiplayer digital games (χ^2 (6, N=137)=19,074, $p=0,004$). There is also a statistically significant difference between males and females regarding the preference for digital simulation games (χ^2 (6, N=137)= 15,951, $p=0,014$).

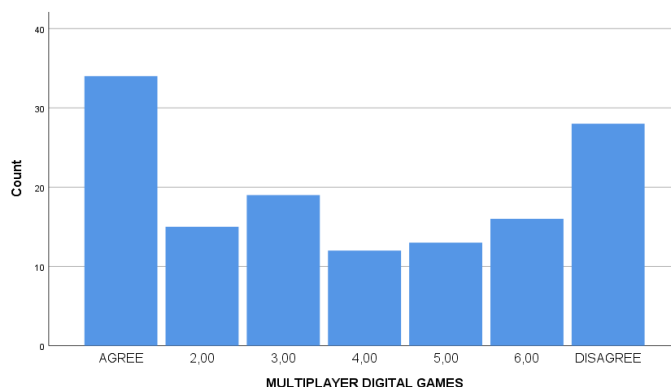


Fig. 1. Distribution of answers about preference of multiplayer digital games

Table 2. Frequencies of preference about digital simulation games

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	30	21,9	21,9	21,9
	2,00	16	11,7	11,7	33,6
	3,00	19	13,9	13,9	47,4
	4,00	18	13,1	13,1	60,6
	5,00	14	10,2	10,2	70,8
	6,00	15	10,9	11,7	81,8
	7,00	25	18,2	18,2	100,0
	Total	137	100,0	100,0	

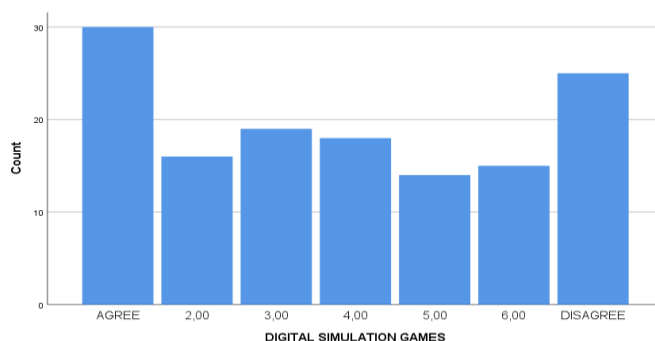


Fig. 2. Distribution of answers about preference of digital simulation games

This study reported gender differences in digital games use. These findings agree with other studies that support gender differences in the literature, such as reports on males preferences to socially interact while playing digital games and to use multiplayer digital games more than females (Vermeulen, Van Looy, Courtois, & De Grove, 2011; Nietfeld et al, 2014; Tsai, 2017). Furthermore, it has been reported in the literature that “*perceived gender-based performance disparities seem to result from factors that are confounded with gender (i.e., amount of play), not player gender itself*” (Shen, Ratan, Cai, & Leavitt, 2016).

The limitation of this study is that the sample selection was a convenience sample. It is important to investigate deeper any gender differences among postgraduate students and the use of digital games. Future research may focus further in a larger sample including students and individuals of various ages and even investigate factors that may influence disparities between males and females in digital games use for educational, health, or other purposes.

Conclusions

In conclusion, this study reports on the gender differences amongst postgraduate students when playing different genres of digital games and how the use of digital games differentiates among males and females regarding specific genres of digital games like multiplayer digital games and digital simulation games.

References

- Kucirkova, N., Littleton, K. & Kyparissiadis, A. (2018). The influence of children's gender and age on children's use of digital media at home. *British Journal of Educational Technology*. 49(3). 545 – 559.
- Lekka, A. (2017). The pedagogical exploitation of digital games in formal and informal education. (Doctoral Thesis) University of Ioannina. Greece.
- Nietfeld, J., Shores, L. & Hoffmann, K. (2014). Self-regulation and gender within a game-based learning environment. *Journal of Educational Psychology*, 106, 961-973.
- Prensky, M. (2001). *Digital Game – Based Learning*. McGraw – Hill. New York.
- Shen, C., Ratan, R., Cai, Y. D., & Leavitt, A. (2016). Do men advance faster than women? Debunking the gender performance gap in two massively multiplayer online games. *Journal of Computer-Mediated Communication*, 21(4), 312-329.
- Tsai, F. (2017) An Investigation of Gender Differences in a Game – based Learning Environment with Different Game Modes. *EURASIA Journal of Mathematics Science and Technology Education*, 13(7), 3209-3226.
- Vermeulen, L., Van Looy, J., Courtois, C. & De Grove, F. (2011) Girls will be Girls?: A study into differences in game design preferences across gender and player types. Conference Papers: Conference Under the Mask: perspectives on the gamer. UK.
- Winn J. & Heeter, C. (2009) Gaming, Gender and Time: Who Makes Time to Play? *Sex Roles*. 61. 1 – 13.