

# The Effect of Online Gaming on Social Skills Development Among UTHM Students

Nur Auni Qistina Zulkafli<sup>1</sup>, Marlisa Mohmad Rozi<sup>1</sup>, Nur Annis Safrina Zakaria<sup>1</sup>, Zul Afiq Sazeli<sup>1\*</sup>, Mohamad Faizal Ab Jabal<sup>2</sup>

<sup>1</sup> Department of Science and Mathematics, Centre for Diploma

Universiti Tun Hussein Onn Malaysia, Pagoh Higher Education Hub, 84600 Pagoh, Johor, MALAYSIA

<sup>2</sup> Faculty of Computer and Mathematical Sciences

Universiti Teknologi MARA Johor Branch, Pasir Gudang Campus, 81750 Masai, Johor, MALAYSIA

\*Corresponding Author: [zulafiq@uthm.edu.my](mailto:zulafiq@uthm.edu.my)

DOI: <https://doi.org/10.30880/mari.2026.07.01.004>

## Article Info

Received: 01 October 2025

Accepted: 30 November 2025

Available online: 15 January 2026

## Keywords

Social interaction, Krejcie and Morgan table, SPSS, Pearson correlation, T-test

## Abstract

Online games are becoming more popular among students in higher learning institutions, or public universities, such as Universiti Tun Hussein Onn Malaysia (UTHM). Online games serve as a medium of entertainment as well as a platform for social interaction in a virtual space. However, there is a concern that online gaming may alter students' social skills in the real world, notably in terms of communication and collaboration. Social skills are how a person can interact with other people effectively in different situations; social skills also play a key role when an individual is looking to achieve academic, professional, or career success. For the case of students, face-to-face interaction can form self-confidence, build leadership, and teamwork abilities, while an online game perspective may align players to interact in a virtual environment where the opportunities to create and build social skills are diminished. This research study was conducted to identify the impact of online games on students' social skills, specifically on UTHM diploma students' communication and teamwork skills. A questionnaire instrument was used to collect data and was conducted on a total of 301 students to collect responses. Respondents were selected based on the Krejcie and Morgan table. Data analysis was completed using SPSS, and the Pearson correlation and independent t-test were utilized. Results of this study indicate that there is relationship between online gaming and social skills students, which is the correlation is 0.280, 0.426, and 0.227 and gamers show significantly higher social skills than non-gamers. Also, the result for sample independent t-test of section 2 is 0.001 and section 3 is <0.001.

## 1. Introduction

Today, online gaming is particularly popular among teenagers, including students at UTHM. Furthermore, technological advancements have resulted in increasingly realistic and engaging video games. In this study, we will focus only on Massively Multiplayer Online Games (MMOGs) among other online games. Multiplayer online games allow users to communicate and collaborate in real-time, often requiring strong teamwork and communication skills to succeed in gameplay [1]. However, there are concerns that the increasing number of

children who play online games may harm the development of essential social skills, such as communication and teamwork.

Social skills refer to the confidence and effectiveness with which individuals engage with others and the community [2] in any situation, such as using language in conversation, conveying feelings, and considering different perspectives in social situations [3]. There are benefits for students to prepare before entering their career life. Various ways affect social skills, such as the interaction with people [4], the nature of activities or someone [5], where people actively interact with other people, such as joining a school debate competition. However, technology itself can make the individual lack social skills [3], as the number of players in online gaming has increased due to the technology. The researchers have shown that most gamers have skills that they can learn, such as communication skills, decision-making, and learning skills [6].

The respondents of the study are up to 301 students between the ages of 18 and 21 years old who have been asked to complete a questionnaire that was provided via Google Form. The target population was all the students in the Centre of Diploma Studies (CeDS) at UTHM Pagoh. This case study investigated the relationship between multiplayer online gaming and the development of real-life social skills among UTHM students. This case study was also carried out to examine the differences in social skills development in real life in multiplayer online gaming with gamers and non-gamers among UTHM students. The findings of this study will contribute to a better understanding of how online gaming can influence students' ability to interact in real-life social contexts.

## 2. Materials and Method

### 2.1 Study Design and Participants

The data collection process was carried out in the fourth week of the semester, as most students had just started classes that week face-to-face. A set of questionnaire was distributed to UTHM Pagoh students a week before the new semester began. For the targeted respondents, a total of 301 UTHM diploma students were assumed to answer the questionnaire. The questionnaire was distributed informally through online platforms, including WhatsApp and Telegram. The content of the questionnaire was divided into four parts, which included demographic questions, online gaming habits, social skills in communication, and social skills in teamwork. In the questionnaire, each part used a 5-point Likert scale, as in part 2 is (1= never to 5= always), part 3 is (1= very easy to 5= very hard), and part 4 is (1 = not confident at all to 5 = extremely confident). The questionnaire was made using Google Forms. The respondents' data were exported to Microsoft Excel and analysed using the Statistical Package for the Social Sciences (SPSS).

The questionnaire was used in the study as an instrument to collect data. The purpose of the questionnaire was to collect information about the demographic data of the respondents (age, gender), year of study, and courses taken at the university. Three categories formed the questions, namely "Online gaming habits", "Social skills in communication" and "Social skills in teamwork". Ten questions formed the "Online gaming habits" section. This section was made to answer several questions of the respondents about their online gaming habits to find out the relationship between multiplayer online games and real-life social skills. Meanwhile, ten questions on "Social skills in communication" need to be answered by the respondents to find out the level of social skills in communication between players and non-players. Ten questions for the "Social skills in teamwork" section, which asked the respondents to answer several questions based on their teamwork between players and non-players. Google Form responses were used to collect data, and SPSS software was used to analyse the results.

### 2.2 Instruments

Table 1 shows the reliability of the questionnaire, which was assessed using the coefficient of Cronbach's Alpha. The coefficient is more than 0.90: excellent, 0.80-0.89: good, 0.70-0.79: acceptable, 0.60-0.69: questionable, 0.50-0.59: poor, less than 0.59: unacceptable. The Cronbach Alpha results indicate that the reliability level for all three sections, which are Parts B and C, is at a "Good" level, which ranges from 0.80 to 0.89. While part A is at an "Acceptable" level, which ranges from 0.70 to 0.79. This suggests that the questionnaire items for each construct were consistently interpreted by respondents and reliably measured their respective constructs. Therefore, it can be concluded that the instrument used in this study is reliable for data collection and suitable for further analysis.

**Table 1** *The reliability test*

Section	Number of Question	Coefficient of Cronbach's Alpha	Reliability Level
Part A: Online Gaming (Only for Multiplayer Gamers)	10 Questions	0.700	Acceptable
Part B: Communication Skills (All Respondents)	10 Questions	0.868	Good

Part C: Teamwork (All Respondents)	10 Questions	0.834	Good
------------------------------------	--------------	-------	------

## 2.3 Statistical Analysis

The data collected from the questionnaire were statistically analysed using SPSS software. SPSS software is a software used to analyse scientific data related to social science issues. In this study, SPSS version 27 software was used to analyse the collected data. SPSS software provided tables to produce percentages and means for demographics, online gaming habits, social skills in communication and social skills in teamwork. Additional information, such as to find out the relationship between multiplayer online games among UTHM students and real-life social skills using Pearson's correlation and to study the difference in the development of real-life social skills in multiplayer online games with players and non-players among UTHM students using t-test. Based on the objective, the hypotheses were developed to guide the data analysis:

H1: There is a relationship between multiplayer online gaming and real-life social skills among UTHM students.

H2: There are differences in the development of social skills in real-life multiplayer online gaming between gamers and non-gamers among UTHM students.

## 3. Result and Discussion

Table 2 shows the demographic information.

**Table 2** Demographic information

Demographic characteristics	Number of respondents	%
<b>Gender (N=301)</b>		
Male	56	18.6
Female	245	81.4
<b>Course</b>		
Applied Science - DAU	140	46.5
Mechanical Engineering - DAM	26	8.7
Chemical Engineering - DAK	14	4.6
Electrical Engineering - DAE	29	9.6
Animation Technology - DAG	29	9.6
Information and Technology - DAT	37	12.3
Civil Engineering - DAA	26	8.6
<b>Year Of Study</b>		
Year 1	60	19.9
Year 2	241	80
<b>Do you play multiplayer online gaming?</b>		
Yes	186	61.8
No	115	38.2
<b>What types of multiplayer online games do you play the most?</b>		
First person (FPS)	34	11.3
Multiplayer Online Battle Arena (MOBA)	32	10.6
Massively Multiplayer Online Role-Playing Games	32	10.6
Battle Royale	56	18.6
Sport	15	5.0
No	115	38.2

The questionnaire took an average of 7 minutes for a student to complete, and out of 1426 students, 301 students participated in this study. General demographic information has been shown in Table 1. Overall, there

were 56 (18.6%) male students and 245 (81.4%) female students. The age range of respondents is around 18 to 22 years old, from diploma students UTHM in year 1 and year 2. The students represented various majors, including Applied Science, Mechanical Engineering, Chemical Engineering, Electrical Engineering, Animation Technology and Information of Technology. Most students who played multiplayer online games, which is 61.8%, followed by students who did not play multiplayer online games, is 38.2%. Multiple multiplayer online games cater for multiplayer gamers, including First-Person Shooter (FPS), Multiplayer Online Battle Arena (MOBA), Massively Multiplayer Online Role-Playing Games, Battle Royale and Sport.

Table 3 displays the collected data, which was evaluated using the mean value and percentage for each Likert scale question. Tables 1, 2, and 3 are the mean scores within the following range: 1.00-1.80: very low score; 1.81-2.60: low score; 2.61-3.40: moderate score; 3.41-4.20: high score; 4.21-5.00: very high score.

**Table 3** Mean for habits of online gaming

Statement	Mean	Never (%)	Rarely (%)	Occasionally (%)	Frequently (%)	Always (%)
(1) I always play an online gaming when I have a free time.	3.78	0	4.8	32.3	42.5	20.4
(2) I always play multiplayer online gaming.	3.71	0.5	7.5	30.1	44.1	17.7
(3) I play online gaming for relaxation and entertainment.	3.98	1.1	3.8	23.7	39.2	32.3
(4) It's easy to make friend online rather in real-life.	3.34	6.5	17.7	30.6	25.8	19.4
(5) I play online gaming as a way to connect with friends.	3.73	2.7	8.6	21.0	48.4	19.4
(6) When I spend long hours in online gaming, I find it easy to ignore another task I'm not done yet.	3.29	11.3	12.9	30.1	26.9	18.8
(7) I get frustrated or angry when I lose a game.	3.65	2.2	5.9	32.8	43.0	16.1
(8) I feel a sense of achievement when I win or complete challenges in game.	3.88	1.1	9.7	23.7	31.2	34.4
(9) I spend money on in-game purchases.	3.25	15.1	12.4	21.0	35.5	16.1
(10) I watch gaming-related content.	3.53	8.6	9.1	26.9	31.7	23.7

Table 3 shows the mean score of the (N=186) diploma students UTHM who responded to every 10 statements given about the habits of online gaming in section 1 of the Google Form questionnaire. In section 1, there are only students who play online gaming that must respond, and for (N=115) students that does not play, they need to skip this section and just answer sections 2 and 3. Overall, from section 1, the mean score is in moderate to higher scores, and there is 39.2% of students play multiplayer online gaming. For question 1, there is 0% that students choose never. This means that students never play online games other than in their free time. In questions 2, 4 and 5, the mean score is moderate, which indicates that students make most social connections through games, but do not interact most in real-life interaction. Next, questions 6 and 7 are quite similar situations where the mean score is a moderate score, 3.29 and 3.65, indicating that the student has a problem with time management and emotional regulation.

**Table 4** Mean score for social skills in communication

Question	Mean	Very easy (%)	Easy (%)	Moderate (%)	Hard (%)	Very hard (%)
(1) How difficult is it for you to talk to people in real life situations?	3.25	5.0	12.3	44.9	28.6	9.3

(2) How difficult is it for you to express your thought and feeling effectively during face-to-face conversations?	3.16	4.0	17.3	43.9	28.2	6.6
(3) How difficult is it for you to listen actively and show interest when someone talks to you?	3.31	7.6	13.6	30.2	37.2	11.3
(4) How difficult is it for you to start and maintain conversations in social settings?	3.19	4.7	15.9	45.2	24.6	9.6
(5) How difficult is it for you to understand different perspectives during conversations?	3.26	5.6	13.3	41.2	29.6	10.3
(6) How difficult is it for you to handle disagreements or conflicts calmly and respectfully?	3.22	4.7	14.6	43.9	27.9	9.0
(7) How difficult is it for you to adapt your communication style depending on the situation and the person you are talking to?	3.29	5.6	14.0	36.5	33.2	10.6
(8) How difficult is it for you to actively participate in group discussions or public settings?	3.23	5.3	14.3	42.2	28.6	9.6
(9) How difficult is it for you to interpret and respond appropriately to non-verbal cues, such as facial expressions and body language?	3.32	5.3	11.0	41.2	31.2	11.3
(10) How difficult is it for you to communicate effectively in real-world situations?	3.16	7.0	13.6	44.2	27.2	8.0

Table 4 shows the mean score of the (N=301) diploma students for gamers and non-gamers who responded to every 10 questions on this section. Overall, the mean scores for every question are low, which means the gamers and non-gamers are low in social skills of communication. As shown in the mean score from questions 2,4, and 10, there are low mean from other questions, where 43.9% students found it difficult to express their thoughts, 44.2% difficult to communicate in real-world situations, and 45.2% found it difficult to start and maintain a conversation. In question 1, there are 9.3% students found it difficult to talk to people in real life, from 90.3% students. Mean score for question 9 is the highest other than question 1, but still in a low score, therefore, there are 5.3% students who found it easy to interpret and respond appropriately to non-verbal cues such as facial expression. In virtual life, they could not transmit their non-verbal cues, such as facial expression and body language. Unlike in real life, where students can see each other's real-time face expressions and hand gestures, the avatar-based format requires students to interpret their communication [7]. Next, the results of questions 5,6 and 8 are in the middle of the section with mean values of 3.26, 3.22 and 3.23, respectively. The percentage of students who find this section very hard is 10.3% of those who find it difficult to understand different perspectives, 9% of those who find it difficult to handle conflict calmly and 9.6% of those who find it difficult to actively participate in group discussion. Lastly, questions 3 and 7 got the highest scores with 3.31 and 3.29, and only 11.3% it difficult to listen actively when someone talks, and 10.6% very hard to adapt the communication style of the person talking.

**Table 5** Mean score of social skills in teamwork

Question	Mean	Not confident at all (%)	Slightly confident (%)	Moderately confident (%)	Very confident (%)	Extremely confident (%)
(1) How confident are you in giving clear instructions to your teammates during a game?	3.48	3.0	7.0	41.9	35.5	12.6
(2) How confident are you in giving clear instructions to your teammates during a game?	3.24	2.7	15.9	43.9	35.5	12.6
(3) How confident are you in adapting to different roles	3.51	1.7	11.3	34.9	38.9	13.3

(e.g. leadership) within a team?						
(4) How confident are you in adapting to different roles (e.g., leader, support) within a team?	3.30	1.7	16.9	42.9	27.2	11.3
(5) How confident are you in communicating effectively with both friends and random teammates?	3.48	0.3	11.6	39.9	35.9	12.3
(6) How confident are you in staying calm under pressure while coordinating with your teammates?	3.24	3.7	14.6	46.8	23.9	11.0
(7) How confident are you in motivating your teammates to perform better?	3.66	1.3	7.0	34.6	38.2	18.9
(8) How confident are you in understanding your teammates strengths and weakness to form better strategies?	3.33	3.3	13.0	41.9	30.9	11.0
(9) How confident are you in cooperating with teammates from different backgrounds or playstyles?	3.54	1.3	9.3	37.5	37.5	14.3
(10) How confident are you in applying the teamwork skills you learned from gaming to real-life situations?	3.21	4.0	20.3	38.2	25.6	12.0

Table 5 shows the mean score of the (N=301) diploma students for gamers and non-gamers who responded to every 10 questions on this section. Overall, the mean scores for every question indicate that students have moderate teamwork skills, which means the gamers and non-gamers possess some social skills of teamwork. As show in mean score from question 2 and 6 (M = 3.24) and 10 (M = 3.21) which is the lowest mean based on other question, where 2.7% are not confident giving clear instruction to teammates, 3.7% not confident in understanding teammates strength and weakness to form better strategies and 4% not confident applying the teamwork skills to real life situations. Next, for questions 1, 5 and 8, the mean scores were 3.48 and 3.33, respectively. These questions focused on giving clear instructions, effective communication between teammates and understanding teammates' strengths and weaknesses. About 7% to 14% of students indicated lower confidence in these aspects, suggesting that some students may need more support in dealing with stress or building team strategies. In question 3, they had a higher mean score of 3.51, with only 1.7% stating they were not confident at all in adapting to different roles during a game. Question 4 has a slightly lower mean of 3.30, with 42.9% being moderately confident in adapting to different roles in a game. Lastly, questions 7 and 9 have quite a high mean with 3.66 and 3.54. Only 1.3% are not confident in adapting to different roles within a team and in cooperating with teammates. However, since the overall mean scores are still below 4.00, it shows that while students have some teamwork, it is still in the moderate range. These skills will improve more in a structured environment to improve and apply teamwork skills in real life.

**Table 6** *The Pearson correlation*

		Mean S1	Mean S2	Mean S3
Section 1	Pearson correlation	1	.280**	.426**
	Sig. (2-tailed)		<.001	<.001

	N	186	186	186
Section 2	Pearson correlation	.280**	1	.227**
	Sig. (2-tailed)	<.001		<.001
	N	186	301	301
Section 3	Pearson correlation	.426**	.277**	1
	Sig. (2-tailed)	<.001	<.001	
	N	186	301	301

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

Based on Table 6, Pearson correlation is measured using a set value, which is 0.0-0.1 for no correlation relationship, 0.1-0.3 for low correlation relationship, 0.3-0.5 for medium correlation relationship, 0.5-0.7 for high correlation relationship, and 0.7-1 for very high correlation relationship. The correlation between S1, as the mean of online gaming habits, and S2, as the mean of social communication skills, is  $r = 0.280$ , indicating a low to moderate positive relationship. S1 is the mean of online gaming habits, and S3 shows a stronger and moderate positive correlation of  $r = 0.426$ . These results indicate that although all three sections have significant correlations, they support H1, which states that Section 1, as the mean of online gaming habits, shares a closer relationship with Section 3, as the mean of Social Skills in teamwork, than Section 2, as the mean of social communication skills. According to the general interpretation scale for Pearson's  $r$  (0.1–0.3 = low, 0.3–0.5 = moderate), the strength of the correlation varies from low to moderate, indicating some degree of consistency within each section and the interrelated measures.

**Table 7** *The independent samples t-test*

	Group	N	Mean	Sig (2-tailed)
Section 2	Gamers	186	3.31	
	Non-gamers	115	3.12	0.011
Section 3	Gamers	186	3.50	
	Non-gamers	115	3.23	<.001

Based on Table 7, the independent samples t-test was used to compare the social skills of communication and teamwork. It is measured using a significance 2-tailed, which is  $< 0.05$  means statistically different and  $\geq 0.05$  means no significant difference. In section 2, gamers have a higher score with mean of 3.31, and non-gamers have a lower score with a mean of 3.12. Also, the significance of the 2-tailed of section 2 is 0.011, which is  $< 0.05$ , and it is statistically different. For section 3, it is the same as section 2, where the mean of gamers is higher than that of non-gamers, with the mean of gamers being 3.50 and the mean of non-gamers being 3.23. It is quite different for these two sections, where students are more capable of social skills in communication rather than teamwork. The significance 2-tailed has shown that  $< 0.001$ , there is a highly significant difference. It means that gamers perform better in teamwork in real life than non-gamers. Overall, there is a difference in social skills development between gamers and non-gamers, which supports H2.

#### 4. Conclusion

This study can be concluded that diploma students at UTHM have a significant level of difference and relationship between online gaming and social skills development based on the mean values, Pearson correlation and independent t-test results of the study. The students show good teamwork abilities and suggest they can work well together in gaming environments. However, students' communication skills are lower than their teamwork. This indicates that online gaming may not effectively affect face-to-face communication or the ability to express ideas in real life. Next, gamers have better social skills than non-gamers, particularly in building confidence and group coordination. Students also shared that online gaming helps in the development of teamwork. It shows that they can use social skills from virtual settings to real-life situations. Nevertheless, improving communication skills requires more real-life social interactions and experiences. In conclusion, the study suggests that the social skills gained through gaming, especially in collaboration, relate to how students learn and apply their gaming experiences in real life. Therefore, it's important for students to balance online gaming activities with real-life social activities to enhance their social development. This proves that the objectives of the study were met successfully.

## Acknowledgement

The author would like to thank the Centre for Diploma Studies, Universiti Tun Hussien Onn Malaysia for its support.

## Conflict of Interest

Authors declare that there is no conflict of interests regarding the publication of the paper.

## Author Contribution

The authors confirm contribution to the paper as follows: **study conception and design:** Nur Annis Safrina Zakaria, Nur Auni Qistina Zulkafli, Marlisa Mohamad Rosi, Zul Afiq Sazeli; **data collection:** Nur Annis Safrina Zakaria, Nur Auni Qistina Zulkafli, Marlisa Mohamad Rosi, Zul Afiq Sazeli; **analysis and interpretation of results:** Nur Annis Safrina Zakaria, Nur Auni Qistina Zulkafli, Marlisa Mohamad Rosi, Zul Afiq Sazeli, Mohamad Faizal Ab Jabal; **draft manuscript preparation:** Nur Annis Safrina Zakaria, Nur Auni Qistina Zulkafli, Marlisa Mohamad Rosi, Zul Afiq Sazeli. All authors reviewed the results and approved the final version of the manuscript.

## References

- [1] B. Gao, Y. Cai, C. Zhao, Y. Qian, R. Zheng, and C. Liu, "Longitudinal associations between loneliness and online game addiction among undergraduates: A moderated mediation model," *Acta Psychologica*, vol. 243, p. 104134, Jan 2024.
- [2] I. B. Mun and S. Lee, "A longitudinal study of the impact of parental loneliness on adolescents' online game addiction: The mediating roles of adolescents' social skill deficits and loneliness," *Computers in Human Behavior*, vol. 136, p. 107375, Jun 2022.
- [3] N. Schoop-Kasteler, "Staff-perceived social status and social skills of students with intellectual disabilities in special needs schools," *International Journal of Educational Research Open*, vol. 3, pp. 100150, Jan 2022.
- [4] O. Erdogan, "The mediator's role of communication skills in the effect of social skills on digital game addiction," *Acta Psychologica*, vol. 237, p. 103948, May 2023.
- [5] R. She, P. K. Han Mo, J. Li, X. Liu, H. Jiang, Y. Chen, J. T. Fai Lau, "The double-edged sword effect of social networking use intensity on problematic social networking use among college students: The role of social skills and social anxiety," *Computers in Human Behavior*, vol. 140, p. 107555, Nov 2022.
- [6] B. W. Hygen, J. Belsky, F. Stenseng, V. Skalicka, M. N. Kvande, T. Zahl-Thanem, L. Wichstrøm, "Time spent gaming and social competence in children: Reciprocal effects across Childhood," *Child Development*, vol. 91, no. 3, pp. 861–875, Apr 2019.
- [7] J. Fecke, K. Lohberger, and E. Braun, "The relationship between social inhibitions and various measures of communication skills in two types of digital simulations," *Computers & Education*, p. 105361, May 2025.