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## Online gaming habits and course structure preferences

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### Abstract

The purpose of this research is to examine if there is a link between students' online gaming habits and preferred class structure. The recent pandemic has caused universities to provide more online courses due to the closure of educational buildings. Online gaming is a popular activity among traditional university-age students. We collected data via an online survey where we asked students about their online gaming habits, preferred class structure, the factors which help them choose a course modality, and their opinions on online gaming as it relates to online coursework. We found most students prefer in-person courses regardless of whether they play online games, non-gamers preferred communicating in person more than gamers, and gamers thought gaming improved their comfort level with online courses.

**Keywords:** online gaming, e-learning, undergraduate students, students' preference

### Introduction

Video games are a prime source of entertainment for many individuals of different ages in the modern generation. Approximately 227 million Americans played video games in 2021, up from 164 million in 2019, and roughly 67% of people aged 18 and older play video games (Snider, 2021). The pandemic of 2019 significantly impacted the popularity of video games among different generations due to being under lockdown. During that period, time spent playing video games increased while schools were closed (Snider, 2021). People were also home more due to the online and hybrid courses. As a result, it is critical to analyze students' course modality preferences to improve students' learning experiences as students spend more time online.

Since the pandemic, colleges have provided flexible course modalities to ensure students feel comfortable. Colleges have given students the option of attending classes in person as usual, online with no meeting times on campus, or a mixture of the two with the hybrid option. Our research aims to examine the following research questions:

- 1). What are the current choices of education structure on campus?
- 2). What do the students prefer regarding education structure?
- 3). Are online gaming habits related to education structure preferences?
- 4). Do people who play online games feel more comfortable taking virtual classes?

The remainder of this paper introduces a literature review on video game playing and course modalities, the specifications of the methodology for our project, and the survey results. We also discuss our findings, implications, and possible research for future studies.

## Literature Review

In this section, we provide a literature review on online gaming, e-learning, and applications of online gaming to e-learning.

### Facts about Online Gamers

The advancement in technology has made video games a universal part of people's lives, becoming a source of entertainment for all generations. Unfortunately, despite the high number of gamers among American adults, games still suffer from a bad reputation due to the belief that online gaming is detrimental rather than beneficial (Gilbert 2022, para. 29). In theory, online gaming reduces the amount of time spent doing other activities and developing relationships, as well as taking advantage of educational and career opportunities. According to Gilbert's study (2022), contrary to popular belief, 81% of players believe games provide mental stimulation, 79% think they relieve stress, 63% think they enable them to solve problems, and 55% believe games allow them to connect with others (para. 28). Therefore, online gaming promotes gray matter, problem-solving, social skills, flexibility, and brain speed.

In addition, one key component of online gaming is the sensations presented to players (Shi & Shih, 2015). Enhancing the sensation of games creates a more realistic experience for the players and increases narrative immersion, thus luring more people to play the game. Even though this factor is not required, it can enhance a game's appeal and boost a player's motivation. Socialization is the second key component among players as social interaction improves proactivity and virtual relationships with other players (Shi & Shih, 2015). In the midst of the pandemic, people have found various ways to recreate personal socialization opportunities by embracing the freedom of not being restricted by geography or physical capabilities within video games. It enriches social activities in a network that affects the players' real-life communication, collaboration, and competition in multiplayer gaming (Shi & Shih, 2015). After all, competition between players becomes more desirable when the opponent is human rather than a computer. Hence, sensation and social satisfaction are the reasons why many individuals indulge in online games.

### Facts about E-Learning

E-learning, also known as online learning (or electronic learning), is the acquisition of knowledge delivered electronically. Generally, e-learning is conducted online and contains various elements, including live or pre-recorded lecture content, video, quizzes, and activities (Oye et al., 2012). E-learning can generally be in two categories: synchronous and asynchronous. Similar to remote learning, synchronous e-learning is often referred to as virtual classrooms because it is taught simultaneously as other courses, but from different locations (Oye et al., 2012). Typically, this learning style utilizes a virtual classroom platform like Zoom to facilitate screen sharing, chats, polling, and other interaction tools. In contrast, asynchronous e-learning is self-paced, and students are dispersed geographically (Oye et al., 2012). This style allows students to complete the courses on their own time.

Furthermore, since the pandemic, online learning has become more centric in people's lives as universities were obligated to close. Consequently, education institutions switched to e-learning using educational platforms available to their institutions (Maatuk et al., 2021). There were several studies published in this

period that analyzed the perspectives of students and facilities on their type of learning. One study designed and distributed two types of questionnaires. One for the students, and the other for instructors. After obtaining the results, it was clear that students deemed e-learning valuable and improved their academic performance (Maatuk et al., 2021). This form of learning is manageable, accessible, and reduces the expenses associated with traditional education. From the instructors' perspective, e-learning positively contributes to students' technological skills, and faculty members' availability via e-mail and other e-services is of significant benefit (Maatuk et al., 2021). Overall, e-learning often takes the form of online courses, degrees, or programs and has benefited students and faculty.

## **Past Studies Analyzing Online Gaming Applied To E-Learning**

Studies applying online games to e-learning reported online games as beneficial and successful at motivating and improving learners' engagements and knowledge. Notably, studies discuss the importance of designing digital game-based learning based on a game genre's design or macro-design concepts. Similarly, other studies research the relationship between game genres, learning techniques, and learning styles in educational games. In addition, other researchers studied motivation, training, and games-based e-learning technologies. Contrary to e-learning, many studies have analyzed and discussed online games applied to classroom learning and particularly among those less than 18 years old. These studies produced promising results and inspired others to pursue similar studies.

Unfortunately, despite the various studies about online gaming applied to e-learning, there was no mention of the correlation between playing video games and a preference for certain course modalities. Thus, making it clear that this topic has not been adequately explored. The course modalities for this study range from an in-person to an online learning structure. However, the principal focus will be on the online modality regarding the sudden increase in e-learning based on the COVID-19 pandemic. Similarly, since gamers are constantly interacting with online video games and technology, it is reasonable to assume these types of people would preferably enjoy online courses more than any other modality of learning. Thus, online gamers could open many avenues in e-learning based on the similar interaction they have with games. Accordingly, this research might provide insights and help devise course schedules that best suit students' learning styles.

## **Methodology**

Our research objective was to examine whether students' online gaming habits are correlated to their preferred class structure. We had the following hypothesis:

- 1). If gamers constantly interact with online games & technology, then they prefer online courses over other learning modalities.
- 2). If hypothesis one is true, then online gamers will be able to benefit from e-learning because they have similar interactions with games.
- 3). If hypothesis one is false, then online gamers and online courses do not correlate.

After researching and learning more about our topic, we began to build our survey on Google Form Survey to collect data from different institutions. However, to launch our survey, we needed to obtain the approval of our Institutional Review Board. Once we did so, we conducted a pilot study to ensure every question was clear and understandable for our participants. The pilot study went well, aside from a few issues with ranking questions as they were improperly displayed. After rewording the ranking question for clarity, we distributed the survey to the public.

The survey was shared through various forms, including via email by class list with the permission of the instructor, via representatives of groups on campus, such as clubs, Greek life, and sports teams, and by recruiting participants in common areas on campus such as the Union and Library by advertising the survey by word and poster. Additionally, the survey recruited through texts, emails, social media posts containing the recruitment page, and face-to-face communication where the verbal message aligns with the information stated on the recruitment page. The survey was fielded most heavily at our institution but was also made accessible to students at other universities through text and social media.

The survey consists of five parts: demographics, gaming habits, current class structure, preferred class structure, and factors. The demographics section was styled in a multiple-choice format with questions about the participant's age, ranging from less than 18 to more than 65 years old; their gender with five multiple choice answers including transgender, non-binary/non-conforming, and prefer not to respond; and their ethnicity with nine multiple-choice answers including other and prefer not to say. The demographics continue with the residence, which was a duplicate of the ethnicity choices; students' current academic with the structure of the American education including Freshman, Sophomore, Junior, Senior, Graduate, and Doctoral; and lastly, we asked participants about their degree field.

In the gaming habits section, we asked people how much time they spend playing online games. We also asked them how much time they spend playing collaborative online games such as Rocket League, Minecraft, and Call of Duty. Each question was accompanied by a multiple-choice answer that ranged from zero to over six hours per day. Another question we asked participants was how they communicate during games, whether via voice chat or text chat. Based on a Likert scale of one-seven, the responses ranged from strongly disagree-to-strongly agree. In the current class structure section, we asked students about their class modality during participation and which course modality they enjoyed the most. For the participants' current enrollment courses, the options included all or majority in-person, majority or all hybrid, or majority or all online. As for their preferred mode of instruction, the options included in-person, hybrid, and online.

In the preferred class structure part, we asked about course delivery preferences. In this section, there was a total of eight questions. Six of those questions were identically structured, as in the current part, based on the three multiple options. One question under this section stated that the participants preferred to interact with others in person based on group work and visiting a professor's office for questions or concerns. Multiple answers were provided on a Likert scale of zero to seven, with zero being strongly disagreed and seven equally to strongly agreed. The last question for this section was a ranking structure that allowed students to rank statements from most to least important to them. These statements included better learning, hands-on activities, better communication, flexible schedule, accessibility, self-paced learning, and less distraction.

In the last section, we asked students their beliefs on whether online gaming impacted their education. This section consisted of five questions, four structured with a seven-point Likert scale from strongly disagree-strongly agree. The other question, under this section, was structured with a long answer text. Eventually, to have a better visual of these questions and their format, see appendix A. Overall, we received 149 responses and exported the data to Google Sheets. However, we moved the data into an Excel sheet to better reformat the answer structure to a linear scale based on statistics so it would be compatible with the IBM Statistical Package for the Social Sciences (SPSS) software.

Results

In this section, we report the survey results. We first present a summary of the demographics of the responses. Then report the mean, standard error, and correlations of the survey answers. We finally present results on group comparisons.

Table 1 reports the demographic information. Our survey received a total of 149 respondents. Ninety-four of the respondents are from the 18-24 age bracket, 59.7% are male, 38.3% are female, 75.8% are Caucasians, and 94% reside in North/Central America. The academic classification section yielded 29 freshman or first-year students, 31 sophomore/second-year students, 40 junior/third-year students, 35 senior or fourth-year students, and 13 graduate-level students. Finally, the degree field section reflects 11 respondents in the Bachelor of Applied Science field, 24 in Bachelor of Arts, 34 in Bachelor of Business Administration, 5 in Bachelor of Fine Arts, 39 in Bachelor of Science, and 34 in the other category.

Table 1 is a summary of the demographic information.

Table 1: Demographics of Respondents

Age			Current Residence			Gender		
	N	%		N	%		N	%
<18	2	1.3	North/Central America	140	94	Female	57	38.3
18-24	140	94	South America	1	0.7	Male	89	59.7
25-34	6	4	Europe	2	1.3	Transgender	2	1.3
			Russia	6	4	Non-Binary	1	0.7
Academic Classification			Ethnicity			Degree Field		
	N	%		N	%		N	%
Freshman	29	19.5	Caucasian	113	75.8	BAS	11	7.4
Sophomore	31	20.8	African American	8	5.4	BA	24	16.1
Junior	40	26.8	Latino or Hispanic	13	8.7	BBA	34	22.8
Senior	35	23.5	Asian	7	4.7	BFA	5	3.4
Graduate	13	8.7	Native American	1	0.7	BS	39	26.2
Total	148	99.3	Other	6	4	6	36	24.2
Missing	1	0.7	Not Preferred	1	0.7			

Table 2 presents: the mean and standard error of each question on a scale of one through seven, from strongly disagree to strongly agree. The question abbreviations in the table correspond to the questions in appendix A. In the gaming habits section (GH1-GH4), the average was around one hour of online games per day with GH1 ( $\mu = 1.66$ ). In the gaming habit section, respondents strongly agreed with GH3 ( $\mu = 4.01$ ) - I play online games and communicate with a headset/microphone. In the preferred class structure section, PCS5 ( $\mu = 5.17$ ) showed students strongly agreed with the statement “I prefer to interact with others in person...”. The factors section (F1-F4) showed most students were neutral or agreed with F1, F3,

and F4. Students were neutral or disagreed with F2 ( $\mu = 3.78$ ), stating online gaming helped students feel more comfortable when communicating with professors.

**Table 2: Mean and Standard Error**

Q	Mean (SE)	Q	Mean (SE)	Q	Mean (SE)
GH1	1.66 (0.132)	PCS5	5.17 (0.135)	F1	4.03 (0.129)
GH2	1.18 (0.126)			F2	3.78 (0.127)
GH3	4.01 (0.209)			F3	4.25 (0.138)
GH4	2.83 (0.166)			F4	4.54 (0.144)

Tables 3 and 4 provide the frequency of gaming habits and current class structure questions. In Table 3, 28.2% of respondents reported they do not play online games, leaving the cumulative percentage of those who game for less than an hour to be 55.7% (GH1). Forty-two respondents reported they do not play collaborative games (GH2). Students take most classes in-person (CCS1). In table 4, almost every question received a majority answer for in-person courses.

**Table 3: Frequency in GH1, GH2, CSS1, CCS2**

Response	GH1		GH2		Response	CCS1		Response	CCS2	
	N	%	N	%		N	%		N	%
0 hour	42	28.2	65	43.6	All in-person	45	30.2	In-Person	78	52.3
<1 hours	41	27.5	32	21.5	Majority In-Person	71	47.7	Hybrid	48	32.2
1-2 hours	28	18.8	23	15.4	Majority Hybrid	6	4.0	Online	22	14.8
2-3 hours	17	11.4	11	7.4	All Hybrid	6	4.0			
3-4 hours	13	8.7	8	5.4	Majority Online	11	7.4			
4-5 hours	3	2.0	0		All online	8	5.4			
5-6 hours	3	2.0	2	1.3						
6+ hours	2	1.3	2	1.3						

**Table 4: Frequency of PCS Questions**

Response	PCS1		PCS2		PCS3		PCS4		PCS6a	
	N	%	N	%	N	%	N	%	N	%
In-Person	113	75.8	124	83.2	90	60.4	58	38.9	75	50.3
Hybrid	24	16.1	15	10.1	41	27.5	46	30.9	55	36.9
Online	10	6.7	9	6.0	18	12.1	45	30.2	19	12.8

Table 5 reports the answers to PCS6b, where we asked respondents to rank which factors they considered most important when considering a class modality. ‘Better Learning’ was the factor most respondents

believed the most important (29.5%), and ‘Less Distractions’ was often ranked as the least important factor (24.8%).

**Table 5: Frequency of Ranking Question (PCS6b)**

	A		B		C		D		E		F		G	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
1	44	29.5	15	10.1	14	9.4	30	20.1	7	4.7	15	10.1	19	12.8
2	28	18.8	28	18.8	25	16.8	21	14.1	11	7.4	18	12.1	17	11.4
3	20	13.4	17	11.4	40	26.8	12	8.1	21	14.1	17	11.4	21	14.1
4	15	10.1	19	12.8	20	13.4	30	20.1	36	24.2	13	8.7	11	7.4
5	13	8.7	22	14.8	16	10.7	10	6.7	39	26.2	21	14.1	21	14.1
6	10	6.7	21	14.1	15	10.1	23	15.4	20	13.4	33	22.1	16	10.7
7	17	11.4	18	12.1	15	10.1	21	14.1	6	4.0	26	17.4	37	24.8

\*A=Better Learning, B=Hands-On, C=Communication, D=Flexible Schedule, E= Accessibility, F= Self-Paced, G= Less Distractions

We are interested in whether gaming habits are related to choices of education structure. We performed a Pearson Correlation Coefficient test to determine which gaming habits questions strongly correlated with education structure choices. If a Pearson Correlation has a value closer to 1, it is considered a strong correlation. If the value lies between +/-0.30 and +/-0.49, it is a medium correlation. If the value lies below +/-0.29, then it is considered a weak correlation. When reviewing the statistics, some questions stood out. GH1 is positively correlated with F1 and F4 and negatively correlated with PCS5. GH2 has no significant correlations. Statistically, significant correlations are distinguished with an asterisk in Table 6.

**Table 6: Pearson Correlation Coefficient**

	CCS1	CCS2	PCS1	PCS2	PCS3	PCS4	PCS5	PCS6a	F1	F2	F3	F4
GH1	-0.144	-0.031	0.129	0.087	-0.006	0.042	-0.181*	0.005	0.166*	0.142	0.137	0.186*
GH2	-0.024	-0.012	0.027	0.036	-0.023	-0.005	-0.104	0.044	0.127	0.136	0.107	0.036

**Mean Comparisons**

Tables 7 and 8 give a summary of the means, mean differences, and t and p values for the questions with significant statistical differences. Table 8 compares Male and Female. Male spent more time playing games and collaborative games than females (1.92 vs. 0.98, 1.41 vs. 0.48). Table 7 compare data between Gamers and Non-Gamers. In all questions except PCS5, gamers averaged significantly higher than non-gamers. The non-gamers preferred to interact with others in person more than the gamers (PCS5, 5.64 vs. 4.98).

**Table 7: Gaming Habits Gamer vs. Non-Gamer Groups Mean Comparison**

Q	Mean (Non-Gamers)	Mean (Gamers)	Mean Difference	t-value	p-value
GH1	0.00	2.31	-2.308	-10.251	< 0.001
GH2	0.17	1.52	-1.357	-5.073	< 0.001
GH3	2.03	4.67	-2.645	-6.177	< 0.001
GH4	1.89	3.14	-1.256	-3.381	0.001
PCS5	5.64	4.98	0.662	2.410	0.018
F1	3.62	4.20	-0.577	-2.041	-0.043
F4	4.02	4.75	-0.724	-2.172	-0.023

**Table 8: Gaming Habits Gender Groups Mean Comparison**

Q	Mean (Female)	Mean (Male)	Mean Difference	t-value	p-value
GH1	0.98	1.92	-0.939	-3.987	< 0.001
GH2	0.48	1.41	-0.928	-4.406	< 0.001
F4	4.91	4.33	0.586	1.986	0.049

Table 9 is comments from the “Do you believe students who play online games feel more comfortable with online classes?” prompt. Ninety-eight respondents left their opinions. Forty-four respondents had positive comments. Seventeen respondents had debatable or neutral commentaries, and 21 respondents had negative comments.

**Table 9: Comments**

Comments	
<b>Positive</b>	
#	(25) Yes, with no explanation
1	“I think students who play online games often feel more comfortable. I think those that play a lot of online games and talk while playing tie into their participation, especially in discussion posts and whatnot. I feel they are more confident in their participation”
2	“Especially at the beginning of the COVID pandemic, it seemed that the online gamers had more applicable computer skills for online interaction and were better able to adapt to online course delivery.”
3	“Yes, the students who play online games and interact with other people have developed good communication skills over the internet. That translates well into online classes.”
4	“Yes. My friends who are heavy gamers generally prefer online classes, especially if it's a course that they just must take, not something they are interested in.”
5	“More comfortable because they know how to easily and quickly access the materials and can solve technology issues better.”

Table 9 (Continued)

Comments	
Neutral / Debatable	
#	(3) Probably, with no explanation
1	“It’s debatable between each person, I play some games but get uncomfortable when having to reach out for online classes since I want it to sound professional.”
2	“They may feel more familiar with the technology, but I don't think it has much bearing on how comfortable they are in the online class environment.”
3	“I think they would over someone who doesn't, but I don't think it necessarily means they would pick it over in-person.”
4	“Personally, I’m neutral, I do see how this can be difficult for those who often reject technology.”
5	“I do think it can help, but I ultimately think it's based on personal preference.”
Negative	
#	(9) No, with no explanation
1	“Not necessarily. Being online you get to hide behind a screen while communicating so it may make it easier for the person to communicate online, but in person, they would be the same as before. I also think since online play is a choice they actively make; the stress level of communication and any communication anxiety goes down. Whereas in-person they may not choose to communicate but must under circumstances and the anxiety and stress levels go up.”
2	“I don't think so; online games are different in the way that you're interacting with people on a casual level whereas I feel a class setting is a more professional level. With online games, you can talk to people about anything, but in an online class you must focus on what is being taught and conversation topics that stray from the class topic tend to be looked down on unless it's before class”
3	“I don’t think so, I feel like online gaming you’re playing with strangers, and they will never see you but online classes you’re afraid of judgment or giving the wrong answer.”
4	“No. I believe that may be the case with some, but for others I think there is a strong divide between their behavior in school and video games.”
5	“No as students who aren’t comfortable in these settings, generally are uncomfortable due to personality traits.”

**Discussion**

In summary, we answered all three of our research questions. The current choices of education on campus, and the ones given for our study were in-person, hybrid, and online. After much research and data collecting, we discovered that students highly prefer in-person courses to any other modality. The least preferred learning method among students was online learning. Based on these results, it is evident that students prefer to continue learning in person rather than online regardless of whether they play online games. Additionally, the females and gamers groups agreed more strongly than the male group about gaming enhancing students’ skills in online courses. In addition, gamers agree more strongly than non-gamers when asked if they thought gaming improved their comfort level with online courses. Nonetheless,

our hypothesis on gamers preferring virtual classes rather than any other modality of learning was false. Ultimately, the majority of students preferred in-person classes to any other learning modality.

Moreover, looking over means and mean differences, it appears that gender did not play a difference in whether the respondent feels that playing online games helps strengthen students' computer and technology skills, which averaged slightly above the neutral score. The most significant gender differences were in the gaming habits section, where men were more likely to game than women by almost a point.

The most considerable differences in the means came from comparing the means of responses from gamers and non-gamers. The Gaming Habits section questions brought mean differences of approximately  $-1.9$  points. Non-Gamers also preferred more in-person classes than did gamers who were more neutral. Gamers also averaged a higher neutral response to whether online gameplay improves a student's comfort level in online courses, whereas non-gamers tended to score slightly more disagreed responses.

Based on Table 4, which details the frequency of CCS2 and PCS questions, many individuals prefer attending classes in person, as shown by the frequencies displayed in the table. Associated with their preference were the following two comments:

- "In-person classes are what I'm used to, almost every class I've had prior to the University that I enjoyed and learned the most from was an in-person class."
- "I am a BFA student, in-person facilities are absolutely necessary."

Furthermore, according to the percentage in the table, the hybrid method was the second-highest preference of students. Although, as displayed there is a noticeable difference between in-person and hybrid courses. Nonetheless, these preferences were reflected in the following two comments:

- "I feel like hybrid is best because I can focus on the actual work better outside of class and can ask questions through email or phone calls. However, I need to be taught the material in person to understand it best."
- "I can see my family whenever I want and work without classes getting in the way."

Ultimately, online learning was the least preferred learning method among students. Table 4 clearly illustrates that there is a significant preference difference between in-person classes and online classes, much like the difference between hybrid classes and online classes. Nevertheless, students commented on the following reasons for preferring online classes:

- "I said that online is better for time efficiency only because it does not require me to walk or drive to class, but I rather have in-person class because of all the benefits."
- "My friends who are heavy gamers generally prefer online classes, especially if it's a course that they just have to take, not something they are interested in."

In relation to the preferences, students commented on their beliefs and assumptions regarding gamers and their preferences about online classes. A few comments made based on the question "Do you believe students who play online games feel more comfortable with online classes?", included:

- "Yes, if you are used to interacting with people online it would make sense that someone would be more comfortable in that setting when it comes to learning."
- "It depends on the person, but most of the time I would say yes because they are used to the online format."
- "Yes, the students who play online games and interact with other people have developed good communication skills over the internet. That translates well into online classes."

Based on these results, it is evident that students prefer and find it more effective to continue learning in person rather than online and whether they gamed online was not a significant factor.

## Implications, Limitation, Future Research

Our research attempted to examine whether students' online gaming habits correlated to their preferred class structure. As a result, we conducted a survey online. After analyzing the survey result and comments, we found most students prefer in-person courses, regardless of whether they play online games. However, in a cross-section of females and gamers, both groups agree more strongly than the male section that gaming enhances students' skills in online course work. Gamers also did not agree as strongly as non-gamers when asked if they prefer communicating in person. Gamers did agree more strongly than non-gamers when asked if they thought gaming improved their comfort level with online courses. Based on the results of this study, students would prefer universities to prioritize providing in-person classes.

Our research has several limitations. The first is our sample size of 149 respondents. We also chose broad geographic descriptions that limited our ability to determine whether US participants' geography was a factor in their gaming habits or class structure preferences. Ethnically, 114 of our 149 respondents identified as Caucasian, so we cannot fairly assess whether ethnicity played a role in the responses. Our age category comprised 142 responses from students 18-24, which is the typical range for traditional college students, but prevented us from assessing age as a factor. Our survey distribution tactics may have also created a bias. We reached out to many groups at different campuses, but heavy group-based participation may mean large samples from like-minded individuals, which may have affected the small sample size.

Future research may include a broader sample size to determine if our findings are consistent with varying ages, ethnicities, and geographic populations. Future research may also examine the reasonings behind why students agree or disagree that online gaming impacts comfortability with online classes. Additionally, an experiment where students are introduced to online gaming while taking online gaming improves their comfortability in an online course. Finally, based on simply looking into preferences for this study, future research should focus on the efficacy of online classes and their outcome.

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## Appendix A: Survey Questions

### **Gaming Habits**

GH1. On a scale of 0 to 6+ hours; On average, I play online games (hours) per day.

GH2. On a scale of 0 to 6+ hours; On average, I play collaborative online games, such as Rocket League, Minecraft, Call of Duty, League of Legends, (hours) per day.

GH3. On a strongly disagree to strongly agree scale; I play online games and communicate with a headset/microphone.

GH4. On a strongly disagree to strongly agree scale; I play online games and communicate by text or chat.

### **Current Class Structure**

CCS1. What is the delivery format of the classes you are currently enrolled in? (All In-person, Majority In-person, Majority Hybrid, All Hybrid, Majority Online, All Online)

CCS2. Given current courses, I enjoy (In-person, Hybrid, or Online) delivery method the best.

### **Preferred Class Structure**

PCS1. Based on the three learning methods (In-person, Hybrid, and Online); What is the best course delivery method for you to interact with faculty?

PCS2. Based on the three learning methods (In-person, Hybrid, and Online); What is the best course delivery method for you to interact with fellow students?

PCS3. Based on the three learning methods (In-person, Hybrid, and Online); What is the best course delivery method for you to learn course materials?

PCS4. Based on the three learning methods (In-person, Hybrid, and Online); What is the best course delivery method for you to manage your time efficiently?

PCS5. On a strongly disagree to strongly agree scale; I prefer to interact with others in person, whether it's a group project, asking questions about a subject, or attending a professor's office hours to discuss any questions or concerns.

PCS6a. Based on the three learning methods (In-person, Hybrid, and Online); If it is all up to you (the student) to make the choice, disregarding covid, which delivery method will you choose for your classes?

PCS6b. I made the above choice due to the following reasons. Rank them. (1 most important)

### **Factors** (On a scale of strongly disagree to strongly agree)

F1. I believe online game play improves a student's comfort level in online courses.

F2. I believe online game play improves student's comfort level when interacting with faculty in online courses.

F3. I believe online game play improves student's comfort level when interacting with other students in online courses.

F4. I believe online game play strengthens students' skills in using computing tools and technology to finish assignments for online courses.

### **Comments** (typed responses)

Do you believe students who play online games often feel more comfortable with online classes? Leave your comments here.