

# The Risks and Rewards of Collegiate Esports: A Multi-Case Study of Gamers in the United States and Italy

Julie A. Delello, The University of Texas at Tyler, USA\*

 <https://orcid.org/0000-0002-4326-8096>

Rochell R. McWhorter, The University of Texas at Tyler, USA

 <https://orcid.org/0000-0003-2053-1610>

Paul B. Roberts, The University of Texas at Tyler, USA

Tonia De Giuseppe, University of Benevento, Italy

Felice Corona, University of Salerno, Italy

## ABSTRACT

As participation in electronic sports (esports) continues to expand globally, colleges and universities are considering how such competitive video gaming might impact recruitment, retention, and the overall student engagement experience. This mixed-methods study focuses on the perceptions of college students in both the United States and Italy regarding the esports phenomenon. A compilation of the research findings from two case studies compared and contrasted themes associated with the benefits and risks to college students participating in esports. The findings highlighted the notion that even during challenging times such as the COVID-19 pandemic, the college students in this study were still driven to invest their time in esports play. However, the risks such as those of addiction, health impairment, and social isolation may outweigh the perceived benefits to game play. Included are critical considerations and policy recommendations for campus esports programs as well as future directions in research.

## KEYWORDS

Classification, Education, Electronic Sports, Gaming, Gender, Universities

## INTRODUCTION

Electronic sports or esports has flourished in popularity, fueled by fast internet connections, lockdowns, and social distancing within traditional sports necessitated by the COVID-19 pandemic (Javad, 2020), and the ease of access to “elite competition” (Cranmer et al., 2021, p. 116). In fact, the viewership of esports in 2021 exceeded 26.6 million monthly and the number of active professional players globally is over 10,000 and increasing daily (Mitova, 2021).

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\*Corresponding Author

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Higher education institutions have been adding esports on their campuses to attract students for competitive play (Anderson, 2020) while building community (King et al., 2021; Wang, 2021), and increasing student engagement (Marsh et al., 2020). Prior scholarship on esports identified gaming spending habits, academic and personal benefits of playing esports, as well as the perceived risks for college students based in the United States (Delello et al., 2021). This article builds on the existing literature by adding case data from students based at one university in Europe.

## **BACKGROUND**

Esports incorporates various elements such as business, technology, culture, informatics, and sports (Reitman, et al., 2020). Numerous definitions for esports exist that include Weiss (2008) who defined it as “playing competitive games according to generally accepted rules of leagues and tournaments on the Internet” (p. 572). Jenny et al. (2016) simply defined esports as “organized video game competitions” (p. 35). For the purposes of this research paper, we will utilize a recent definition for esports as “a computer-mediated form of competitive gaming within a multiplayer environment” (Delello et al., 2021, p. 3). Irrespective of the definition, the combination of gaming and sports has existed for decades. A historical look at the blending of gaming and sports includes arcades in the 1970s and 1980s with trendy games (in stand-alone gaming cabinets) such as Space Invaders, Pacman, Galaga, Asteroids (Hughes, 2018; Museum of the Game, 2021), and Defender (Heilmann, 2014). In that era, games such as Atari and Pong were also played in the home with gaming consoles and televisions (Lendino, 2017). The Nintendo Entertainment System (NES) then ushered in the modern console-gaming era with games such as Donkey Kong and Mario Bros. (Wolf, 2012).

The 1970s also brought esports video game competitions such as the Space Invaders’ Championship at Stanford University (Baker, 2016). Atari hosted the Space Invaders Championship in 1980 that attracted over ten thousand U.S. participants and soon thereafter, other competitions ensued utilizing other popular games such as Donkey Kong and Pac-Man with the evolution from arcade games to consoles, and then video games were played on the computer (Mills, 2021). More recently, the 2021 League of Legends championship was one of the most watched esports events in history surpassing an Average Minute Audience (AMA) of more than thirty thousand viewers (Riot, 2021).

### **Burgeoning Audiences of Digital Gaming**

Personal computing devices and fast internet have replaced the traditional video games that were previously played in front of the television sets on home consoles (Lantano et al., 2022; Marchand & Hennig-Thurau, 2013). Playing video games has since become pervasive among young adults around the world (Delello et al., 2021; Ludwig et al., 2021) as there are plenty of free-to-play (F2P) games that they can utilize, and it is also noteworthy that these F2P games have generated most of the digital revenue, at almost \$100 billion in 2020, thus illustrating those users are far more willing to buy additional content than to pay for the game upfront or waiting for additional expansions (Gamespot, 2021). Further, TechJury (2021) found that free games resulted in more profit for all platforms: mobile, console, and computer video gaming.

In 2020, the global COVID-19 pandemic led to disruptions in traditional sporting activities but offered a great opportunity for the esports industry through the livestreaming of esports events (Chan, et al., 2022; Italian Interactive Digital Entertainment Association, IIDEA, 2021). Livestreamed games include multiplayer online battle arena (MOBA) games such as League of Legends and Dota 2; first-person shooter (FPS) games Call of Duty and Overwatch; a free to play battle royale game, Fortnite; and real time strategy (RTS) games like StarCraft II and Supreme Commander (Purse, 2021).

YouTube and Twitch provide the capability to livestream games across internet platforms that have increased the popularity of esports events populated with large numbers of players and viewers (Geyser, 2021). Prize pools (prize money) awarded in the millions of dollars from companies attracted even more players and spectators (Nordmark & Heath, 2021). Also, the COVID-19 pandemic led

to increased viewing and playing of esports across all livestreaming platforms during lockdowns (Clement, 2021; Larson, 2022). In fact, Time Magazine's headline for 2020 was "'Something Needs to Fill That Void' As Stadiums Go Quiet, Esports Are Having a Moment" (Gault, 2020, para. 1).

## Esports on the Global Stage

According to the International Electronic Sports Federation (IESF), esports is the fastest growing sport, with millions of players and billions of fans across the globe (IESF, 2019). Ludwig (2021) reported that there is a globally connected esports system organized around individual esports leagues and titles. However, the United States is not the frontrunner in esports. In fact, The People's Republic of China (2020) reported that the number of online live-streaming service users reached 560 million as of March 2020, which accounted for 62% of all internet users in the country. Statistics from 2020 found that the top ten gaming markets globally (ranked from highest to lowest gaming revenue) were China, U.S., Japan, Republic of Korea, Germany, United Kingdom, France, Canada, Italy, and Spain (Zuckerman, 2020). Also, the number of players of esports were reported as 188.9 million in North America (Clement, 2022); and Europe with 386 million players in 2020 (Newzoo, 2020). Ludwig (2021) reported that esports is flourishing in European countries especially in Poland, Spain, and Italy and that a third of all consumers watch esports regularly.

Instead of a deterrent, the COVID-19 pandemic also fueled the growth of esports across the world through online streaming options during quarantine (Clement, 2022; Perkins, 2020). In fact, quarantine measures not only increased the amount of time consumers played but also how much money was spent (Jackson, 2020). For example, a study of the successful Italian esports team, Dropz, revealed that the COVID-19 period positively influenced both players' engagement and their sentiment (Di Virgilio, et al., 2022). Furthermore, it was reported that Italian fans were passionate about Call of Duty World League, the Italian Esports Open, and the FIFA Global Series (Gough, 2021).

Te (2021) estimated that the global esports industry would reach a billion dollars in revenue in 2021, shattering previous years' records which came to fruition with over 1.08 billion dollars in revenue (Gough, 2022). Projections of the number of active gamers worldwide for upcoming years are 2.95 billion expected by the end of year 2022 and 3.07 billion in 2023 (FinancesOnline.com, 2021) primarily due to new future games being released, more competitive players, and higher production quality of gaming (Webbspy, 2021).

## Reported Benefits and Risks of Gaming

According to Yates (2018), higher education should embrace and invest in esports because of the potential for an esports program to become a "high margin sport" (para. 3). Numerous collegiate esports programs are already accruing large revenues while fans are increasing, the number of required staff are low, and esports staff wages are typically only a fraction of compensation for traditional athletic staff. Also, the returns on investment (ROI) are reportedly as much as nine to one (9 to 1) and esports programs can produce a "positive cash flow" (para. 3) for higher education institutions. In addition, esports gaming rooms are much less expensive to build than multi-million-dollar athletic stadiums with their required costly insurance policies.

Also, Yates (2018) noted that esports programs can create synergy between academic departments (i.e., computer science, engineering, math, etc.) as they support students and staff in their esports program. And, the athletic director on a campus should welcome any "new revenue streams" (Yates, 2018, para. 11) and support the diversity of sports on the campus and help to evolve and improve the program that has the potential to "improve diversity, inclusion, and justice within esports gaming" (Black & Gray, 2022, p. 25). As an example, a recent article by Smith (2021) described how a number of historically black colleges and universities (HBCUs) are building esports infrastructure for attracting students and outside funding to build a 16-player HBCU league that is expected to increase employability for its students in the burgeoning esports industry while promoting diversity

and inclusion (Black & Gray, 2022; Cullen et al., 2018; Landis, 2021) and improve science, technology, engineering, and math (STEM) opportunities for students (Koczera, 2019).

Additional beneficial outcomes have been recognized in the literature for student gaming. For example, a study by Riedel (2016), examined video gaming habits of students versus their grade point average (GPA) and found little evidence that gaming affected the students' GPA. In fact, researchers have pointed to strategic gaming as a conduit for improving problem-solving skills (Sousa, et al., 2020; Ye, et al., 2021), and for developing a sense of community and career-readiness skills (Hoang, et al., 2021). Also, strategic game playing has been credited for enhancing multitasking and spatial cognition (Bediou et al., 2018), and student retention has been highlighted as an advantage for higher education institutions (Buzzelli & Draper, 2021). Esports have also been a path for improving the social-emotional learning of students (Aviles, 2021).

Despite their successes, higher education institutions are also facing challenges and repercussions within esports programs that must be worked through and mitigated. For example, Dooley (2021) noted instances of toxic team culture and performance enhancing drug use in esports players. To curb toxic team culture, Pauketat (2022) recommended strategies to create inclusive gaming environments that included policies and standards for player and teams such as the University of California at Irvine's program that utilizes a task force that oversees diversity and inclusion (D&I) efforts for their esports program where toxic behavior is not tolerated and training is provided for students to resist inappropriate online behaviors. Furthermore, Hong and Connelly (2022) advocated that "coping skills/strategies should be also considered when professional teams develop support initiatives to ensure players' wellbeing and welfare" (p. 1).

Although progress in equity has been made, there is still underrepresentation of females in esports environments and a number of females who are esports competitors recognize that there has been discrimination evidenced by hashtags such as #GamerGate that began in 2014 and prominent through 2015 that "captured attention across gaming circles and in the mainstream media after online forums began targeting prominent female gamers, game developers, and journalists" (Darvin et al., 2021, p. 480). Incivility and discriminatory behaviors (sexism) still exist, but researchers have noted that after the Gamergate debacle, conditions have improved. According to O'Donnell (2022), "anti-harassment tools and initiatives created in the wake of Gamergate, most notably Crash Override Network, the Online Abuse Prevention Initiative, and ggautoblocker, all of which were established by Gamergate targets" (p. 179).

Additional reported risks of esports players include both physical and psychological issues. For example, physical maladies may occur such as poor eating habits, sleep disturbances, carpal tunnel syndrome, overuse injuries, and substantive issues even more concerning such as vision problems and torn tendons; psychological issues reported include mental fatigue, burnout, and stress (Newbury, 2021), violent behavior, aggression (Anderson et al., 2010), and gaming disorder addiction (Bányai et al., 2019). Also, challenges faced in esports happens when players are ill (such as during COVID-19 and flu season) that can be challenging for teams when players are not available to compete on campus with their team. However, Cote et al. (2022) discussed that due to the COVID-19 pandemic, collegiate esports were able to thrive and become meaningful through digital technologies where players could compete from home utilizing campus resources when they could not be on campus due to illness. Similarly, Delello et al. (2021) reported that positive outcomes students reported from playing esports included academic and personal benefits such as "social interaction, teamwork, and critical thinking skills" (p. 1) while the risks of esports were perceived as "esports gaming addiction; mental, social, emotional risks; lack of physical activity; and physical disorders associated with playing eSports" (p. 1).

## **Research Problem**

There is currently a lack of international comparative research on esports. This is likely due to time investments for data collection methods across two or more countries requiring formation of

relationships with international researchers, translating research instruments into other languages, and gaining human subject research approval with other institutions.

This mixed-methods study was replicated from an earlier case study (see Delello et al., 2021) to compare the esports habits of college students in Italy to those in the United States to corroborate, assess similarity, and contrast the personal and academic benefits and the risks of playing esports across two countries during a pandemic when many students were isolated due to school closures and lockdowns.

## Methodology

The mixed-methods research methodology was based on a multi-case approach, in which, the researchers situated a case within a larger context to look for meanings that emerged (Stake, 2006). In this study, the authors reanalyzed a dataset from an existing U.S. case study (see Delello et al., 2021). New replicated data was collected, translated, and provided by researchers in Italy to produce cultural insights into the benefits and risks of esports to college students across geographical locations (the United States and Europe). Italy was purposively selected to serve as a case as esports in the Italian sector represents one of the most important gaming markets in Europe with many of their consumers being like the U.S. participants in our study (ages 16-65) with a preference for the games played in the U.S. such as “League of Legends”, “Counter-Strike: Global Offensive” or “Call of Duty: Modern Warfare” (Ludwig et al., 2021). Additionally, it is important when doing cross-country research that at least one person on “the research team has experience with the cultural aspects of each country in order to facilitate the creation and execution of the research project in a proper way” (Gharawi et al., 2009, p. 165).

Hantrais (1996) suggested that cross cultural research occurs when individuals or teams set out to examine particular issues or phenomena in two or more countries with the express intention of comparing their manifestations in different sociocultural settings (institutions, customs, traditions, value systems, lifestyles, or to gain a greater awareness and a deeper understanding of social reality and different national contexts” (cited in Bryman & Bell, 2011, pp. 63-64).

In this study, an anonymous, online Qualtrics questionnaire was designed and translated into two languages (English and Italian) for the purposes of this study. The questionnaire utilized both open and closed questions and targeted college students over the age of 18. Seven of these included demographic questions such as age, gender, ethnicity, college classification, major, type of university, and whether students had an esports program and scholarships for it. Also, the survey included nine multiple choice and three open-ended questions determining students’ experiences and perceptions of the benefits and risks to playing esports.

An invitation to participate was posted on social media communities (e.g., Twitter, Facebook) and sent to college esports listservs. Additionally, the invitation, which included the script and survey link, was sent to two faculty members at a very large public university who were also part of the research team in Italy for help in distribution. Students were encouraged to share the posting with other students to reach a larger sample of participants (snowball sampling). The research was approved by the Institutional Review Board (IRB).

## Participants

### *Case One: United States*

In the initial case, one hundred fifty-nine students (71 male/88 female) from the United States participated in this study. Of those, forty-eight (30%) were in graduate school; 38 (24%) were undergraduate seniors, 36 (23%) were juniors, 17 (11%) were sophomores, and 20 (13%) were freshmen. One-hundred and three students (65%) were Caucasian, 24 (15%) were Hispanic, 15 (9%) were Black, 13 (8%) were Asian or Pacific Islander, 2 (1%) were Native American, and 2 (1%) reported other. The students ranged from 20-58 years in age ( $M=30.6$ ).

Of those, 135 (85%) of the students responding attended a public four-year university, 16 (10%) attended a private four-year university, 6 (4%) attended a public two-year university, 1 (1%) attended a private two-year university, and one (1%) reported other. Students reported a range of majors from human resource development, education, psychology, criminal justice to undecided. Most of the students (101/64%) were unsure if their college had an esports program on campus. Forty (25%) of the students stated they had an esports program on their campus and 18 (11%) reported they did not. Ten (6%) of the students stated campus scholarships were available for esports whereas 37 (23%) reported none existed, and 112 (70%) of the students were unsure.

### *Case Two: Italy*

In the replicated Italian study, three hundred twenty-one students (62 male; 259 female) participated. Of those, 232 (72.3%) were undergraduate seniors. The remainder of students were in graduate school (33, 10%); 48 (15%) were juniors, and 8 (2.5%) were freshmen. One-hundred and three (65%) were Caucasian, 24 (15%) were Hispanic, 15 (9%) were Black, 13 (8%) were Asian or Pacific Islander, 2 (1%) were Native American, and 2 (1%) reported other. The average age of the Italian students who participated was 35.73 years, with the range between 20 and 61 years of age.

The Italian responses indicated that 231 (80.8%) of the students were enrolled in programs of education, 47 (16.4%) were enrolled in sports programs, and 8(2.8%) were in other programs. Most of the Italian students (87.9%) reported that their university did not have scholarships for students in esports (8.1% of them were not sure) nor was there an esports program on their campus (5.6% of them were unsure).

### **Analysis of the Data**

A systematic approach was used in this inductive, interpretive analysis conducted as both within-case and cross-case analysis (Stake, 2006). Each case was analyzed individually by the research team in each country, and then together an analysis was performed to investigate both the similarities and differences across cases. The data analyses used a mixed-methods approach combining quantitative statistical data and qualitative data. The statistical analyses were completed using Excel and Qualtrics Stats IQ. Descriptive statistics were used to examine and summarize patterns in the esports habits of the students as well as the potential risks and benefits of playing such games across gender, education, and cultural contexts. Additionally, several statistical tests were utilized such as Analysis of Variance (ANOVA), nonparametric chi-square ( $\chi^2$  test), Fisher's exact tests, and OLS regressions to investigate additional variables of interest.

To compare the established U.S. case study with the qualitative data from the Italian case study, two members of the Italian research team created a transcript of the open-ended questions and then translated those responses into English. The translated responses were systematically and independently analyzed by two additional research team members from the United States who reviewed each transcript and then developed a list of themes until intercoder agreement was achieved (see MacQueen et al., 1998). To enhance the confidence in the findings, a fourth researcher reviewed the document as defined by Merriam and Tisdell (2016) as a component of peer-examination.

## **RESEARCH FINDINGS**

### **Esports Related Habits**

#### *Case One: U.S.*

In the initial study of 159 U.S. students, 54.7% reported playing esports; 45.3% did not. Higher percentages of male (84.5%) than female (30.7%) reported that they watched, played, or competed in esports resulting in a strong statistically significant relationship  $\chi^2(1, N = 159) = 45.9, p = .00001$ , chi-square test). Additionally, the data also supported a difference between the students' year of study

(education classification) and whether they watched, played, or competed in esports ( $P=.00466$ , Fisher's exact test). In terms of classification, graduate students (33%) watched, played, or competed more than other classifications (seniors, 23%; sophomores, 13%; juniors, 13%; freshmen, 18%).

**Case Two: Italy**

Of the 321 Italian students, surveyed, 55.6% reported that they watched, played, or competed in esports. Slightly greater percentages of males (66.1%) than females (53.10%) reported that they watched, played, or competed in esports. However, there was no significant correlation among the gender of the participating students and watching, playing, and competing in esports ( $\chi^2 = 3.44$ , sig = 0.07). However, there was a statistically significant (at the 0.05 level) correlation among the year of the study ( $\chi^2 = 16.82$ , sig = 0.01) and the program the student was enrolled in ( $\chi^2 = 4.46$ , sig = 0.04) with watching, playing, and competing in esports. The Italian junior students (52.1%) and graduate students (75%) did not watch, play, or compete in esports, whereas most senior students (61.6%) did watch, play, and compete in esports. Also, many of the Italian students enrolled in sports programs (57.4%) reported not watching, playing, or competing in esports while the majority (59.3%) of students in education did.

**Effects of Playing Esports**

**Case One: U.S.**

When U.S. students were asked whether watching, playing, or competing in esports took time away from other activities they were engaged in, a ranked ANOVA was used due to the sample size being small. There was no significant association found for *Completing Homework for School, Watching Television, or Writing, Socializing (In Person) With Friends and Family, or Social Networking, Emailing, or Internet Based Communication*. Largely, many students perceived that esports did not take time away from their other activities (see Table 1).

**Table 1. Does Watching, Playing, or Competing in esports Take Time from Other Activities?**

Other Activities	Total Percent	Total Percent
	U.S.	Italy
Yes (Completing my homework for school)	32.8%	58.8%
No (Completing my homework for school)	58.2%	32.7%
Unsure (Completing my homework for school)	9.0%	8.5%
Yes (Watching TV/videos)	38.8%	56.9%
No (Watching TV/videos)	59.7%	33.9%
Unsure (Watching TV/videos)	1.5%	9.1%
Yes (Writing)	20.9%	46.7%
No (Writing)	73.1%	40.6%
Unsure (Writing)	6.0%	12.7%
Yes (Socializing in person with friends or family)	22.4%	67.9%
No (Socializing in person with friends or family)	71.6%	24.2%
Unsure (Socializing in person with friends or family)	6.0%	7.9%
Yes (Social networking, email, or other internet-based communication)	20.9%	39.0%
No (Social networking, email, or other internet-based communication)	76.1%	41.2%
Unsure (Social networking, email, or other internet-based communication)	3.0%	19.4%

U.S. students stated they watched esports an average of 3.64 hours per day, played an average of 3.71 hours and competed just 1.05 hours in a typical day. Males reported watching (M=2.89), playing (M= 3.86), and competing (M= 1.33) hours per day. Interestingly, females reported watching esports more than males (M=5.09) but played (M=3.41) and competed less (M=.51). Freshman reported playing an average of six hours a day (M=6.33), followed by juniors (M=4.13), sophomores (M=3.44), graduate students (M=3.38), and seniors (M=2.13). And, when students were asked what they watched, played, or competed in, they listed a broad range of games (see Table 2). Most students

**Table 2. Games Students Watched, Played, or Competed In**

Question	Watch	Play	Compete
	U.S./Italy	U.S./Italy	U.S./Italy
<b>MOBA</b>			
League of Legends	14.36%/8.07%	10.38%/7.99%	6.90%/7.45%
Defense of the Ancients/DOTA	1.03%/ 2.14%	1.09%/1.14%	3.45%/0%
Smite, Battleground of the Gods	1.03%/80%	1.64%/15%	6.90%/5%
<b>Multiplayer FPS</b>			
Overwatch	10.77%/65%	10.38%/25%	20.69%/10%
Counterstrike	5.64%/55.17%	2.73%/31.03%	6.90%/13.79%
Call of Duty	7.18%/40.91%	9.29%/43.18%	3.45%/15.91%
Paladins: Champions of the Realm	0.51%/2.64%	0.55%/2.28%	3.45%/2.48%
<b>Battle Royal</b>			
Fortnite	5.13%/43.26%	9.84%/36.88%	6.90%/19.86%
Apex Legends	7.18%/57.14%	7.65%/35.71%	3.45%/7.14%
PlayerUnknown's Battlegrounds	3.59%/52.17%	2.73%/34.78%	0.00%/13.04%
<b>Sports Games</b>			
FIFA	2.56%/44.29%	3.28%/37.62%	0.00%/18.10%
NBA 2k	2.05%/51.56%	3.83%/34.38%	0.00%/14.06%
Madden	2.56%/72.22%	2.73%/22.22%	0.00%/5.56%
Rocket League	4.62%/3.95%	4.92%/2.97%	3.45%/1.86%
<b>Tactical Shooter</b>			
Rainbow Six Siege	6.15%/3.79%	8.20%/2.97%	10.34%/1.86%
<b>MMORPG</b>			
World of Warcraft	3.59%/50%	2.19%/36.36%	0.00%/13.64%
RuneScape	1.03%/50%	1.64%/43.33%	3.45%/7.14%
<b>Card Game</b>			
Hearthstone	3.59%/67.86%	1.64%/28.57%	3.45%/3.57%
<b>Real Time Strategy (RTS)</b>			
StarCraft II	2.56%/51.28%	1.09%/43.59%	6.90%/5.13%
<b>Fighting Game</b>			
Super Smash Bros.	9.23%/60.61%	8.20%/24.24%	3.45%/15.15%
Street Fighter	2.56%/51.06%	1.09%/44.68%	0.00%/4.26%
Mortal Kombat	1.54%/44.44%	3.28%/47.62%	3.45%/7.94%
Other	1.54%/31.58%	1.64%/36.84%	3.45%/31.58%
	Total	Total	Total

watched (14.36%) League of Legends (10.38%), played League of Legends or Overwatch (10.38%), and/or competed in Overwatch (20.69%) tournaments.

Furthermore, when U.S. students were asked if they used real-world money to purchase game items, most students reported spending money on cosmetic items (18.2%) and loot boxes (17.6%). However, 50% of both male and female students reported not spending any actual money on gaming. When analyzed by education classification, graduate students reported spending more on betting (80%), functional items (39.29%), and tournament fees (33.33%). In fact, graduate students reported spending money on tournaments (\$400), cosmetic items (\$4000), and on game betting (\$1200) while seniors spent more money on upgrades and coins (40%); sophomores spent more on other items (50%), and freshmen spent more on upgrades (40%). One freshman student reported, "I do not wish to know how much I have wasted" while another stated spending "at least \$1000 across 11 years of esports."

When asked, "Do you see any personal benefits to playing esports?", 92 (71.3%) of the U.S. students reported "yes" while only 37 (28.7%) individuals reported perceiving no benefit. However, perceiving the presence of benefits did differ significantly between genders ( $p=0.00001$ , Fisher's exact test) but not college classification. Significantly more males (94.34%) than females (55%) reported personal benefits to playing esports.

The personal beneficial themes for playing esports represented 72 comments from participants. These themes included: (1). *Spending Time with Friends/Social Interactions* is illustrated in the quote: "Esports, when played with others in an online community, can provide social interaction with like-minded individuals. It is another way to build bonds and develop relationships too, which can blossom in other ways (extended friendships, business, etc.)." (2). *Teamwork* is represented by 16 comments and depicted in the quote, "Many esports require teamwork and communication to win a game." (3). *Critical Thinking/ Problem Solving* is portrayed in the quote: "Problem solving and thinking outside of the box makes me more apt to think of complex ways to approach things." (4). *Entertainment* is described by a participant: "Just like how others read books, watch television, go outdoors, and so on just for entertainment and to occupy oneself, playing esports has a similar effect." (5). *Relaxing and Managing Stress* is represented by a participant's quote: "It (esports) is the best way I've found to disconnect from what stresses me and reset my mind." Some students did not see a personal benefit to esports, answering "no" to the question citing they did not know what esports are or that it may take "time away from their family."

### Case Two: Italy

When looking at the effects of playing esports on other activities the Italian students were engaged in, most of the students claimed that the time spent for playing esports negatively influenced their time for *socializing in person with friends or family* (67.9%), for *completing their homework for school* (58.8%), *watching television* or videos (57%), *writing* (46.7%), and *social networking* (39%) (see Table 1).

In a typical day, Italian students stated they watched an average of 1.72 hours per day, played an average of 2.02 hours and competed just 1.43 hours per day. Males reported watching ( $M=1.67$ ), playing ( $M=2.46$ ), and competing ( $M=.97$ ) hours per day. Interestingly, females reported competing ( $M=1.57$ ) and watching esports more than males ( $M=1.75$ ) but playing ( $M=1.89$ ) less. In terms of classification, Italian junior level students played an average of an hour per day ( $M=1$ ), followed by freshmen ( $M=1.5$ ), seniors ( $M=2.06$ ), and graduate students ( $M=3.38$ ).

Many students (29.32%) reported they had not purchased anything with real-world money. Yet, some students did pay for tournament fees (10.90%), cosmetic items (12.41%), coins (10.90%), loot boxes (3.38%), upgrades (16.54%), or other (1.50%) items. And some students spent money on betting (4.89%). When analyzed by education classification, graduate students reported spending more on betting (8.3%) and functional items (6.3%) while freshmen (30%) spent more money on cosmetic items and upgrades (10.0%). Seniors (10.5%) spent more on coins and loot boxes (15.8%) while

sophomores spent more on tournament fees (11.8%) and other items (11.8%). Females (75.6%) spent less money overall on items as compared to males (29.7%).

When students were asked what they watched, played, or competed in, they listed a broad range of games (see Table 2). Most students watched (80%) *Smite*, a free-to-play, third-person multiplayer online battle arena (MOBA) video game. Students (47.6%) also played the fighting games *Mortal Kombat* and *Street Fighter* (44.68%) slightly more than other games and competed in *Fortnite* (19.86%) tournaments (see Table 2).

When examining the responses to the question, “Do you see any personal benefits to playing esports?”, 152 (54.3%) of the students reported “yes” while 128 (45.7%) individuals reported perceiving no benefit. The year the Italian students were classified by was significant (at the 0.05 level) and correlated with their perception about personal advantages and disadvantages in playing esports (see Table 3). Italian students enrolled in junior (55%), or senior years of the study (57.1%) saw personal advantages in playing esports compared to freshman (0%) and graduate school students (37.5%). Italian students enrolled in their junior (69%) or senior year of the study (69%) noted disadvantages in playing esports, compared to freshmen (25%) and graduate school students (37.5%).

An examination of the data from the Italian gamers (see Table 4) shows the first three themes to emerge were like the US gamers with Theme 1: *Social Interactions*; Theme 2: *Critical Thinking/ Problem Solving*, and Theme 3: *Relaxation and Fun* leading the way. It is also interesting to note that the frequency of respondents citing social interactions is almost twice that of the next highest cited theme. The fourth theme to emerge from the Italian respondents was the *application and use languages*. A variation on this theme can also be seen in comments found in socialization such as “you socialize with other people from all over the world”. There were very few comments concerning world languages or global socialization among the U.S. respondents. The fifth theme to emerge from

**Table 3. Correlations among the year of the study of the Italian respondents and the advantages and disadvantages of playing esports**

	CHI-square	Sig.
Do you see any personal advantages in playing esports?	8.15	0.04
Do you see any academic advantages in playing esports?	7.7	0.05
Do you see any disadvantages in playing esports?	12.66	0.01

**Table 4. Top Personal Benefit Themes of Playing esports among Italian Students**

Frequency	Themes	Representative Quotes
39	1) Social Interactions	“You socialize with other people from all over the world.”; “Socialization and peer relationship.”; “Socializing with other gamers.” and “Know and socialize with people who live / live in cities very far from ours or even other nations.”
21	2) Critical Thinking/ Problem solving	“By playing you can develop alertness, improvising strategies you can develop skills and you can develop the concept of team play.”; “Problem solving development of creative thinking.”
19	3) Relaxation and Fun	“Leisure, relaxation.”; “In the appropriate time it can be a pleasant hobby to be exploited in your free time.” & “For fun.”
11	4) Language Skills	“It is also necessary to learn a language.”; “Knowledge of English.”; “... allows you to speak and improve the English language.”
8	5) Motor development	“...and how to coordinate your hands with your eyes.”

the Italian students was that of *motor development* that included both hand/eye coordination as well as reflexes.

Among those Italian students who answered “No” to the question, “Do you see any personal benefits to playing esports?”, individuals most frequently responded that they didn’t know what esports are. Other responses include: “takes time away from studying”, “you isolate ourselves too much” and “they cause problems in health and relationships with others.”

## Esports and Academics

### Case One: U.S.

When U.S. students were asked “Do you see any academic benefits to playing esports?”, 56.1% reported yes, while 43.9% stated no. The results indicated a significance between gender and the perceived academic benefits to playing esports ( $p=.0206$ , Fisher’s exact test). Specifically, men (68.52%) reported higher perceived academic benefits than women (47.44%). However, all students perceived some academic benefits to playing esports (Freshman, 66.7%; Sophomores, 60%; Juniors, 48.5%; Seniors, 56.3%; Graduate Students, 56.8%).

When students were asked specifically what they felt the academic benefits of playing esports were, five primary themes emerged from their open-ended responses: Theme 1: *Critical Thinking*; Theme 2: *Relaxation/Stress Reduction*; Theme 3: *Social Interactions*; Theme 4: *Scholarships* and Theme 5: *Real-World Connections* (See Table 5). Those who felt there were no academic benefits

Table 5. Five Academic Benefits of Playing esports

Frequency	Themes	Representative Quotes
16	1) Critical Thinking/ Problem solving	“I think that it likely will also build numerical skills, creative thinking, computational thinking, and “what if” scenarios.” “When your brain is being actively challenged and stimulated, academic benefits occur.” “There could be a lot of math behind the way you play.”
16	2) Relaxation/Stress Reduction	“It could possibly help someone relax and allow for a small escape from the pressures of studying. This would allow a student to possibly release some stress and be able to focus more when they do study.” “It relieves stress, so if I’m burnt out and I take a break to play for an hour or two, I feel ready to get after it again.”
14	3) Social Interactions	“It gives people who don’t play sports or do any other things on campus a place and that helps them fit in more and reach out for other’s help.” “Individual[s] that are introvert[s] and are not good with people may have depression or don’t have a lot of people to interact with, this is a great form to not feel lonely and is like a community with individual that can bond over something.”
13	4) Scholarships	“There could be a possibility of scholarships and creating connections doing esports.” “For the students that do participate can receive scholarships.”
8	5) Real-World Connections	“People who play could be computer processors or engineers especially with technology always advancing in different career fields.” “When real world theories are applied in a game, whether the player realizes it or not, they tend to learn concepts that are applicable in the real world.” “Esports also requires a lot of leadership skills that could definitely be useful in other areas of your life.”

to playing esports generally fell into two groups: those who had no knowledge of esports and who did not know the benefits, and students who simply stated that there were no benefits as stated in the following example: “I’m not sure what all counts as esports.”

One academic outcome found was based off the results of an OLS Regression, that checked for significant differences and revealed that there was a strong significant difference and weak predictive value in student classification and grade point average ( $R^2 = 0.306$ ,  $p < .00001$ ) in those who played esports. Freshman ( $M=2.7$ ) had much lower grade point averages than other student classifications: sophomores ( $M=3.4$ ); juniors ( $M=3.3$ ); seniors ( $M=3.4$ ), and graduate students ( $M=3.8$ ). However, there were no significant differences between gender and GPA ( $p < 0.114$ ) in those who played esports. Male players averaged a GPA of 3.33 while female averages were only slightly higher ( $M = 3.46$ ). One student remarked, “I bet specific gamers who play games like StarCraft or other hardcore strategy games outscore (GPA wise or whatever) the average student. Not to say that gaming makes you smarter but smart people lean towards specific game types.” Another student reported that gaming, “makes you want to maintain good grades.”

### Case Two: Italy

When students were asked “Do you see any academic benefits to playing esports?”, 135 (47.2%) reported yes, while 151 (52.8%) stated no. Male students (42.31%) reported slightly lower perceived academic benefits than female students (48.29%). In terms of academic classifications, all classes noted some academic benefits (Freshman, 66.7%; Sophomores, 60%; Juniors, 48.5%; Seniors, 56.3%; Graduate Students, 56.8%).

The mean grade point average of all the Italian students was a 2.32. However, for those that watched, played, or competed in esports, the average GPA was marginally higher ( $M= 2.58$ ). Also, there were no significant differences between gender and GPA ( $p < 0.114$ ) in those who played esports. Male players averaged a GPA of 2.36 while female averages were only slightly lower ( $M = 2.31$ ). However, freshman did have much lower grade point averages ( $M=1.55$ ) than other student classifications: Juniors ( $M=2.36$ ); Seniors ( $M=2.34$ ); Graduate Students ( $M= 2.26$ ).

When students were asked specifically what they felt the academic benefits of playing esports were, five themes resonated: Theme 1: *Competition*; Theme 2. *Social Interactions/Teamwork*, Theme 3. *Problem Solving/ Decision Making*; Theme 4. *Making Money*, and Theme 5. *Real-World Connections* (see Table 6).

## Risks of Playing eSports

### Case One: U.S.

When asked the question, “Do you see any risks (i.e., dangers) to playing esports?”, both U.S. males (57.4%) and females (52.6%) perceived some risks. However, their perceiving of the presence of

Table 6. Academic Benefits of Playing esports

Frequency	Themes	Representative Quotes
19	1) Competition	“Promotes healthy competition.”; “Increase cognitive and competition skills for achieving a goal.”
19	2) Social Interactions/ Teamwork	“Allow you to encourage teamwork.”; “Cooperate.”; “Meet new people ability to work in a team.”
16	3) Problem Solving/ Decision Making	“Development of problem solving.”; “Ability to work in groups, use of creative thinking.” and “Solution Development.”
10	4) Making Money	“There are guys who earn money.”; “There are players who earn (money) in playing.”
10	5) Real-World Connections	“Learn new languages and realities.”; “You learn and deepen your knowledge of different cultures and languages.”

risks did not differ significantly between genders ( $p=.599$ , Fisher's exact test). And, there was no statistical significance related to risks and the level of a student's education ( $\chi^2(4, N = 132) = 7.65$ ,  $p = .105$ ,  $V = .241$ ). Freshman (73.3%) did report more perceived risks than other classifications.

Four different themes emerged from the open-ended data including: 1) *Addiction to Esports Gaming*, 2) the *Lack of Physical Activity*; 3) *Physical Disorders*, and 4) *Mental, Social, or Emotional Risks* (See Table 7). For example, one participant reported the risk of esports gaming addiction as: "Just like traditional sports, esports have risks and dangers. Addiction is one of them, leading to lack of control and management of time; sleep deprivation." A lack of physical activity was the second most frequently cited risk of playing esports. In fact, one student remarked: "Games are usually played while sitting down and sitting down for long periods of time is actually detrimental to their health." The third most frequently mentioned physical risk was Carpal Tunnel injuries as noted by one student: "Hand based injuries due to very few differences in movements over long periods of time if proper stretching methods aren't taken into consideration."

### Case Two: Italy

When Italian students were asked the question, "Do you see any risks (i.e., dangers) to playing esports?", 188 (65.7%) of the students reported "yes" while 98 (34.3%) responded "no". Both male (65.4%) and female students (65.8%) reported they perceived risks to playing esports. When reported by classification, seniors (79.2%) perceived more risks than freshman (.53%), juniors (15.43%), or graduate students (4.79%).

Open-ended responses were categorized into four themes: 1) *Addiction to Esports Gaming*; 2) *Absence of Social Interactions*; 3) *Lost Contact with Reality*; and 4) *Antisocial Behaviors* (see Table 8).

### Cross-Case Findings and Discussion

In this study, we have compared two case studies from two separate countries (United States and Italy) which described the personal and academic benefits as well as the risks of college students playing esports. In terms of demographics across cases, there were many similarities between the two countries. For example, we found that about the same percentage of students played esports in both the U.S. (54.7%) and in Italy (55.6%). Most of the students across both cases were Caucasian with an average range of 30-35 years of age. And, across both countries, greater percentages of male than female students reported that they watched, played, or competed in esports. However, in Italy more than half of the female students reported watching, playing, or competing compared to just a third of U.S. females. In the United States, more graduate students (33%) watched, played, or competed

Table 7. Risks of Playing esports among US Students

Frequency	Themes	Representative Quotes
12	1) Addiction to esports Gaming	"People I know flunked out of college or delayed their education because they got addicted." "It can be addicting. Many play/watch for hours and hours"
7	2) Lack of Physical Activity	"It can replace healthy habits like physical exercise." "Overweight due to too sedentary of a lifestyle."
7	3) Physical Disorders	"One's posture can be impacted (neck, back, wrists, hands, or fingers); carpal tunnel syndrome... eye-problems (strain)... "Vision problems could occur due to the blue light."
6	4) Mental, Social, or Emotional Risks	"Emotional risks include anger/frustration, isolation, and a constant feeling of being compared." "There's also long periods of isolation when one is preparing for a competition, so it could also be detrimental to your social life if not done in moderation."

**Table 8. Risks of Playing esports among Italian Students**

Frequency	Themes	Representative Quotes
63	1) Addiction to esports Gaming	“You spend too much time in front of the screen and become addicted to these games.”; “Yes, because there can be addiction.”
38	2) Absence of Social Interactions	“Such an activity, if too prolonged, can promote social isolation.”; “If used obsessively it could lead to isolation of the subject.”
18	3) Lost Contact with Reality	“Too many hours dedicated with the risk of confusing the virtual with the real.”; “Risk of dependence and estrangement from reality.”; “Spending too much time in front of a computer risks distancing people from reality and causing alienation.”
16	4) Antisocial Behaviors	“For violent games there is a risk of imitation.”; “Cause aggression and hyperactivity.”; “Aggressive behavior.”

more than other classifications. Yet, in Italy, 75% of their graduate students noted they did not watch, play, or compete in esports. Students in the U.S. also reported watching esports an average of 3.64 hours per day, playing an average of 3.71 hours, and competing an average of 1.05 hours per day. However, Italian students stated they watched an average of 1.72 hours per day, played an average of 2.02 hours and competed 1.43 hours per day. According to the Italian Interactive Digital Entertainment Association (IIDEA), this is comparable to the general population of Italian fans who have shown to devote 6.5 hours a week to esports events (IIDEA, 2021). Yet, when broken down by educational rank, freshman in the United States played the most esports at just over six hours per day whereas in Italy, freshman students averaged only an hour of play per day.

In almost all instances, the Italian students watched, played, and competed more than U.S. students on specific game titles with a few exceptions (see Table 2). For instance, U.S. students watched and played more using the MOBA game League of Legends but competed slightly less than the Italian students. Additionally, U.S. students watched, played, and competed more on the sports game Rocket League and the tactical shooter game Rainbow Six Siege than their Italian counterparts. U.S. students also competed more than Italian students in the MOBA game Defense of the Ancients/DOTA, the multiplayer FPS Paladins: Champions of the Realm, and real time strategy (RTS) StarCraft II game.

Most U.S. students watched the MOBA game League of Legends (14.36%), played League of Legends (10.38%) or the team-based, FPS game Overwatch (10.38%), and/or competed in Overwatch (20.69%) tournaments. Most students in Italy watched (80%) Smite, a free to play, third person MOBA video game. Students (47.6%) also played the fighting games Mortal Kombat and Street Fighter (44.68%) slightly more than other games and competed in Fortnite (19.86%) tournaments. Interesting to note, in 2020, Fortnite was one of the most streamed games in Italy (IIDEA, 2021), which may have resulted in the Italian students in this study also reporting Fortnite as the game they competed most in (see Table 2). Also, both Overwatch and Fortnite are multiplatform games, allowing players to use consoles or PCs. In this study, students in Italy (55%) mainly used consoles and students in the US reported the use of game consoles (32.8%) and/or laptops (34.4%) as the device they most often used for playing esports. Also, both Fortnite and League of Legends are free to play (F2P) and can be downloaded from the internet, with no special hardware required, perhaps contributing to the growing active user/fan base.

### **Perceived Personal and Academic Benefits**

When specifically looking at the personal and academic benefits to playing esports, U.S. students saw more personal and academic benefits to playing esports than Italian students. Students classified as juniors, seniors, or graduate students saw more benefits but also more risks than those in lower

classifications on campus. The comparison between the U.S. respondents and the Italian respondents shows no difference in four of the top five academic benefits of playing esports, however, it is interesting to note that the Italian students saw *competition* as a significant academic benefit. This is echoed in the U.S. by Larson (2022) who found that competition was seen as an advantage because “competitive gaming allows [students] to be part of a team, learn from and educate each other” (para. 5). Further, esports players are held accountable for their academic performance since most educational institutions expect esports athletes to adhere to the same standards for attendance and grades as their student athlete counterparts. In terms of grade point averages, across both cases, freshman had lower GPAs than other classifications. In this study, students in Italy had slightly lower GPAs (2.32) than the U.S. students ( $M=3.32$ ) who played esports. It is important to note that universities in Italy use a 30-point scale, which is slightly different than the GPA system in the U.S. For example, a 19-23 scale score in Italy would be a C GPA. According to a faculty member from Italy, the point scale and GPA is comparable across countries (T. De Giuseppe, personal correspondence, January 3, 2023) but Italian students get a few additional points for graduation, which may make the GPAs between the students in each country much closer than they appear in this study.

Wang (2021) noted that esports is creating more job opportunities such as internships and career placements within the esports industry providing real-world opportunities for students to apply their learning within future career paths. *Building community* was also seen as a personal and professional benefit due to the younger ages that players are coming on the esports scene and acquiring skills such as managing a team, esports marketing, heading up weekly tournaments, and locating team sponsors while also creating lasting friendships among the players. Gaining long-term friendships was a theme in a 2020 survey completed by 500 gamers that revealed that over a third of the respondents “developed a lifelong friend through chat while gaming. More than 20 percent of those friendships have lasted at least five years and over three percent have persisted for more than two decades” (PRNewswire, 2020, para. 1).

### Perceived Student Risks

Italian students (65.7%) perceived more risks to playing esports than U.S. students (55%) did. When asked whether esports took time away from other areas, most Italian students felt that esports took time away from all other activities. Conversely, students from the United States indicated that esports did not distract them from any of the reported daily activities. This is consistent with prior research (e.g., Mokhtari et al., 2015) that found some students in the U.S. to believe they could perform an array of tasks simultaneously (multitasking) and do each task well.

*Becoming addicted to gaming* was seen as the most frequently identified risk by both the U.S. and the Italian students. In terms of microtransactions, the purchasing of in-game items with real currency, Italian students spent 17.3% more money on coins, 26.71% more on functional items such as weapons, and 52% more on tournament fees while the U.S. students (32%) spent more on loot boxes. Some researchers have suggested that the incorporation of loot boxes into gaming may promote an increase in gambling-like behaviors (Macey & Hamari, 2018). Unsurprisingly, neither the Entertainment Software Rating Board (ESRB), which assigns ratings to games in the United States and in Canada nor the European Gaming Association view loot boxes as a form of gambling (see Hood, 2017). However, the publisher Epic Games replaced the loot box mechanisms “of chance” in the games Fortnite (Orland, 2019) and Rocket League (Goslin, 2019) so players are now able to see which items they will receive before making a purchase. Yet, Overwatch, listed as the highest played and competed U.S. game in this study, continues to integrate loot boxes for purchase of randomly selected items used to customize heroes or the player’s profile into their games.

Additional risks identified by the Italian students included the absence of physical contact and loss of social interactions when playing esports. This was followed by lost contact with reality and intimidation and other antisocial behaviors that both had similar numbers of responses. Students in the U.S. also listed a lack of physical activity, physical disorders, and mental, social, and emotional

risks as consequences to playing esports, all of which the Italian students also identified, but simply not with the same frequency levels. The *loss of contact with reality*, which was identified by the Italian students, was the only theme that was not present in the U.S. student responses.

## CONCLUSION

While each case context was different, this study highlighted those students who play games in an interconnected world share many of the same commonalities with one another. And, although esports provided opportunities for both personal and academic growth, gaming was not perceived to be devoid of risks by students in either country.

As esports increase in popularity, stakeholders must consider the impact to college campuses and whether policies need to be in place for students who participate in such competitive gaming. For example, freshman, in this study, had lower grades and for some, a significant portion of time was devoted to online play. Could this amount of play be considered a type of gaming addiction? Recently, the World Health Organization (WHO, 2022) listed video game addiction or “gaming disorder” as an official medical condition characterized by impaired control over gaming with an increasing “priority given to gaming over other activities to the extent that gaming takes precedence over other interests and daily activities, and continuation or escalation of gaming despite the occurrence of negative consequences” (para. 2). However, there is still a dearth of research in this area as it is still unknown as to whether addiction to gaming is considered an actual mental disorder (American Psychiatric Association, 2022). How much game play is too much? Perhaps, grade point averages should be considered for esports team members to encourage students to prioritize their academics before game play.

College stakeholders may also want to consider whether to regulate the games purchased and played on campuses to protect students from being exploited or from participating in the gambling-like behaviors of using real-currency for betting or purchasing items such as loot boxes. Furthermore, the additional risks of physical, mental, and emotional health issues need to be considered as gamers may need increased support from staff members to reduce unhealthy gaming behaviors noted by students in this study such as social isolation or even a lack of exercise.

As colleges look at ways to increase recruitment and improve retention of students, stakeholders may also want to consider the addition of funding incentives like scholarships for esports, as they may be influencing factors for students deciding where to attend college. A recent AP study found that 90% of esports scholarships are allocated to men even though over 40% of competitive players are women (Seiner, 2021). As competitive gaming teams are built, it will be important that gender imbalances be considered to make sure that programs are inclusive of all students.

The benefits to students identified in this study included those of critical thinking, relaxation, teamwork, scholarships/prize money and making real-world connections, which are all desirable attributes that can result in individuals who are not only successful students, but also high-achieving employees in the future job market. This study has demonstrated that these benefits come with some potential risks and efforts should be made to mitigate them as described above. Universities have benefited from recruitment and retention for some time now, however, according to Murray et al. (2021) esports is also a strategy to meet other institutional goals, such as inclusion, equity, involving students in an emerging industry, funding sources (prize money) and building curriculum around esports.

Future research should include more cross-disciplinary, cross-country, and international research to better understand the global esports phenomenon. According to the European Union’s esports Research Network, “Esports is both global and local with the potential to act as a medium for communication, the revitalisation of cities, bridging borders, and educating young and old” (Scholz & Nothelfer, 2022, p. 8). Also, data gathering techniques beyond surveys such as adding qualitative methods (i.e., focus groups, on-site observations, and semi-structured interviews) to delve deeper into the details of why students play, compete, and invest themselves into esports and how esports

ties to their learning should be considered. In addition, future research includes the addition of a case with esports players at a HBCU to further triangulate the findings of our two cases as we seek further insights of the phenomenon of esports under investigation.

There were several limitations to these analyses. Although the U.S. case was published first, the case from the Italian students was collected at the same time but the translation and data analysis took a considerably longer amount of time to complete due to the COVID-19 pandemic as Italy was one of the first countries with universities on a strict lockdown. Additionally, when translating an online survey, there may have been a loss in the semantic equivalence across the languages or cultures. Another limitation of this study was that the risks and rewards of playing esports were self-reported by the students. Also, students were from different institutions and disciplines and not uniformly representative of all levels of academic study. In addition, students also self-reported their grades, using unique grading scales, which limited the generalizability of this study.

Even with these limitations, the study highlighted how the students who played esports in this study were more like one another than they were different. And, in an increasingly interconnected and globalized world, esports may foster a global awareness and allow for international collaboration among players regardless of background or geographical location. The research also reminds us that we still have a lot to learn about the interconnected world we live and game in.

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*Julie Delello is a Professor in the College of Education and Psychology at The University of Texas at Tyler. She received her Ph.D. in Curriculum and Instruction with a specialization in science and technology from Texas A&M University. She has extensive experience in curriculum and technology implementation and faculty training and development. She has authored numerous publications and her professional interests focus on teaching pedagogies, academic innovations, visual media technologies, artificial intelligence and STEM explorations, gerontechnology, and social media platforms for authentic learning.*

*Rochell McWhorter is an Associate Professor of Human Resource Development (HRD) in the Soules College of Business at The University of Texas at Tyler. She received her Ph.D. from Texas A&M University. Her long-term research agenda includes the study of virtual scenario planning (VSP) as the development of leadership capability and capacity within virtual environments for the purpose of preparing organizations for times of uncertainty. Her passion for emerging technologies includes the study of virtual human resource development (VHRD) to discover its implications for research and practice in the field of HRD. She utilizes various techniques in the classroom such as social media, infographics, digital badges, augmented reality, and artificial intelligence; and, she is a champion of service-learning and researcher of eSports.*

*Paul B. Roberts, Ed.D., is a Professor of Human Resource Development at The University of Texas at Tyler. He has received more than \$1,000,000 in grants and funded projects. His research focuses on virtual HRD and the demographics of HRD programs. He has received many honors for teaching, including the Chancellor's Council Outstanding Teaching Award. He also received the Academy of Human Resource Development (AHRD) Excellence in Service Award, Paul was only the 7th recipient of this award in the 30-year history of the organization. Paul earned his doctorate from the Department of Human Resource Development at Texas A&M University.*

*Tonia D. E. Giuseppe is Associate Professor SECTOR 11 D2 - Didactics, special pedagogy and educational research, at the Giustino Fortunato University - PhD in Language Sciences, Society, Politics and Training: Body, Technologies and Inclusion, at the University of Salerno Studies. Since 1990 she has been involved in training processes and studies of strategic educational implementations in complex territorial contexts. In particular, since 1998, she has participated in multidisciplinary studies for the creation of systems of intercultural inclusiveness, for which she has received national and international awards of merit. She has held positions of responsibility, training, planning and evaluation for public bodies, the Campania Region, international, governmental and non-governmental organizations for cooperation and development education. She has participated in training and research activities in the field of cooperation and peace education, also with non-governmental organizations, addressing issues for which she has also obtained various awards, which indicate a continuous and consistent commitment, also with the contents of the sector disciplinary 11 / D2. She is currently engaged in scientific and didactic-training activities of a theoretical, empirical and experimental nature concerning teaching, training, special pedagogy, guidance and assessment in different educational, educational and training contexts. In particular, she has focused on research related to: general didactics (Didactics and special pedagogy); educational planning methodologies, training and cooperation and inclusive organizational management; on media education and e-learning; on product, process and system evaluation; on special education aimed at people with disabilities and problems of social and cultural integration; education in socio-motor activities (experimental pedagogy) with constant attention to the theme of didactic innovation, in particular the methodology of the flipped classroom and a. In fact, the studies concerning some deficits (selective mutism, attention disorders and hyperactivity, autism spectrum disorders) but above all the research activities carried out since 2014 on the flipped inclusion model and innovative analyzes on E-sports education, relating to implementation of systemic inclusiveness models from the lifelong learning approach in an ecological-inclusive perspective, applied through a cultural approach and a research methodology, which has made it possible to prefigure original future heuristic scenarios such as to arouse interest from the national and international scientific community.*

*Felice Corona is a Director's Delegate and Full Professor of Didactics and Special Pedagogy (M-PED/03) at the Departments of Medicine, Surgery and Dentistry and of Human, Philosophical and Education Sciences of the University of Salerno. He has a PhD in Pedagogy of educational processes and construction of knowledge with particular reference to disability. He studied at the "Sophia Antipolis" State University of Nice where he graduated with the "Maitrise". Former president of the teaching council in Educational Sciences for Inclusion and Wellbeing (SFIB), between 2007 and 2008 he was Visiting Professor at the West Hungarian University Savaria Campus of Szombathely (Hungary) and specialized in Performance Analysis with the team directed by Professor Mike Hughes of Cardiff University (England). In 2011 he was Visiting Professor at the Fundação Universitária de Itaperuna (Funita) in Rio de Janeiro — Brazil. He is a member of the board of directors of the Italian Society of Special Pedagogy (SIPES), of the Editorial Boards of Autism Insight, of the Journal of Experimental Neuroscience, of Rehabilitation Process and Outcome and many others.*