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Research Article

Esports In Higher Education: Investigating Faculty And Students' Preferences Towards Career-Oriented Collegiate Esports (A Case Of Universities In Pakistan)

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ABSTRACT

Esports has grown dramatically in popularity over the last three decades. Esports industry has benefited from the post-COVID-19 turmoil, and youngsters desire to work there. Consequently, numerous universities across the US have begun to offer undergraduate esports programs. However, due to a lack of awareness and interest from regulators, particularly in developing nations (i.e., Pakistan) educational sectors are hesitant to incorporate esports into academics. In contrast, university students are struggling financially due to rising inflation and thus higher tuition fees. The goal of this study is to establish e-gaming as a viable and healthy career option in Pakistani institutions. This aims to examine university-based students' and teachers' perspectives regarding esports integration into courses. Statistical tests (ANOVA) revealed substantial differences in responses from a survey of 370 university students and 76 university teachers. A positive change in perception toward esports inclusion in curricula will help students to bridge the gap between their emerging interests and the esports industry.

KEYWORDS: Career-oriented framework, Esports, E-gaming career, Esports in Pakistan, IBM SPSS, One-way Anova, 5-point Likert scale

INTRODUCTION

In recent years, technology has transformed the world and fulfilled emerging human needs. Sport is one of the sectors that has been impacted and altered by technology advancements. Electronic sport (esports) is a new branch of the sports industry. Over the previous decade, esports has grown in popularity. Esport is usually meant for competitive gaming or professional gaming (Kocadağ, 2019). With games like Fortnite and League of Legends, the popularity of Esports is on the rise steeply and it will be soon a billion-dollar industry (May, 2019). Unlike the conventional video games, Esports is considered as to competitive video gaming within the frame of competition played by proficient gamers (Njogu, 2021) (Tahir, 2021). Gaming, on the other hand, is the act of playing video games (Njogu, 2021). Whereas computer games are a popular way for people to spend their free time. According to the sc2ranks.com website, the strategic game StarCraft 2 has over 1 million players in Europe alone (Martončik, 2015). The massive increase in participation has resulted in computer game play being recognised as a mainstream activity (Williams, Yee, & Caplan, 2008). Esports has been defined by some researchers as "a type of sport in which the essential aspects are supported by electronic systems; the input of players and teams, as well as the output of the Esports system, are intervened by human-computer interfaces" (Delello et al., 2021) (Salo, 2017)(*Huiberts S4502612/ 2*, n.d.). It is critical to stress that "e-Sports as a phenomenon must be investigated solely for its social and cultural implications." (Reitman et al., 2020).
Esports has been around in the background, such as in academia, for nearly 50 years, with the first arcade game released in 1967 (Bousquet & Ertz, 2021a). Stanford University hosted the first "Spacewar" competition in 1972, for which it received the prestigious Rolling Stone prize (Delello et al., 2021). Esports has a viewership comparable to the National Basketball Association and the National Football League in the United States (Michael & Williams, n.d.). Esports tournaments are especially profitable for larger organisations to invest in because they can be viewed at any time and from any location (L Hirsch, 2020). Microsoft, BMW, Red Bull, Intel, Coca-Cola, HP, Audi, and other sponsors demonstrate the Esports industry's dominance (L Hirsch,

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2020). The revenue from esports was $0.97 billion in 2020, $1.08 billion in 2021, and is expected to reach $1.62 billion by 2024 (Ahn et al., n.d.).

The esports industry is expanding as a global phenomenon, but there is still debate over whether or not Esports should be classified as a sport (Delello et al., 2021) (Kane, 2017). From one perspective, this disagreement is logical; Esports has been accused of not being a true sport due to its cybernetic nature and lack of physical action (Bousquet & Ertz, 2021a). Meanwhile, despite the global pandemic the Esports industry has experienced phenomenal growth over the last few decades (Bousquet & Ertz, 2021a). "Generation Z," or those born between 1995 and 2012, in particular, has higher expectations of their institutions in terms of addressing issues such as interest-based course curricula, assisting them in obtaining gainful employment, and utilizing technology in novel ways (King et al., 2021) (Jeffrey J. Selingo, n.d.). Because of their concerns about rising student debt, some Gen Zers (those born between 1995 and 2012) may consider alternatives to traditional higher education, such as on-demand and just-in-time education solutions (Mintz, 2021).

This group of college students is also known for their taste in video games. In fact between ages 18-29 out of 100% (72% men) and (49% women) report playing video games frequently (King et al., 2021). In the realm of competitive video gaming, the exponential growth of esports reflects this serious interest in gaming. Millions of people used to consider esports a hobby, but today it's a $1.48 billion industry that's expected to grow to $6.81 billion by 2027 (Revenue, 2022). Additionally, gamers can improve their critical thinking, communication, and cooperation abilities while also generating a sense of belonging and community through esports (*Reality_is_Broken*, n.d.) (King et al., 2021).

Recognizing the importance of the Esports industry, as previously stated, academic sectors are employing a similar strategy to integrate this industry within universities and colleges. The University of California, Irvine (UCI), for example, has established itself as a collegiate Esports leader (Amazan-Hall et al., 2018). Similarly, the North America Scholastic Esports Federation (NASEF) serves as the governing body, with the goal of using Esports to help college students prepare for careers (Lee et al., 2020). The defense of increased Esports as an industrial sector is not a trend being embraced in developed nations but also in developing nations. For example, China, Japan, and to some extent Korea, dominating the Asian esports region (Tahir, 2021).

Esports programs in colleges and universities have the potential to improve college students' educational outcomes by allowing them to integrate their learning (Harvey, n.d.) (Storey, 2010). Developing an esports curriculum and bringing collegiate competition to William & Mary in 2019 would thus address two issues. For starters, an esports program recognizes the significance of gaming in the lives of today's students. Second, there is an increasing demand for esports career paths that are similar to those in physical sports. As a result, universities must maintain their competitiveness in the higher education market by having a strong Esports presence that benefits student learning and professional advancement.

The statistics above show that the esports gaming industry has the potential to boost not only the economy but also the careers of those involved. The research study aims to know how much faculty and students were involved in the conception and development of the esports program. From these lines of actions, it would be interesting to investigate how students and faculty can perceive the future introduction of problem-solving career-oriented colligate esports for universities in Pakistan.

BACKGROUND

Defing Esports:

Esports is a type of sport in which human-computer interactions assist electronic systems in facilitating the sport's core features (Delello et al., 2021). The esports industry is establishing itself as a global phenomenon with significant economic and cultural implications. Wagner defined e-Sports as "An area of athletic activities in which people acquire and train mental or physical capacities in the use of information and communication technology" (Wagner, n.d.)(Bányai et al., n.d.)(Reitman et al., 2020).

Esports is a hybrid between video games, sports, commerce, and media. E-Sports are primarily a phenomenon of young people (Martončik, 2015)(Reitman et al., 2020). The average esports player is between the ages of 15 and 25, and they train for 2-4 hours three to four times per week (Suitong, 1025) (Martončik, 2015). Despite the global pandemic, the Esports industry has experienced phenomenal growth over the last decade (*Esport*, n.d.). Esports is rapidly expanding. Even though the fact that eSports appear to be a relatively new phenomena, the first video game was produced in 1967. Furthermore, it has grown in popularity during the previous ten years (*Esport*, n.d.). And Thus with every coming year Esports reaches its heights that make the competition more interesting for the esports athletes based on rank division, and the late 1990s are remembered as a golden era in the history of Esports competition.

Golden era of esports:

Three significant events marked a turning point in esports history. The first known esport competition, Red Annihilation, was held in the United States in May 1997, using a local area network (Kocadağ, 2019). The grand prize in the tournament was a Ferrari model 1987 owned by John Carmack (“A Brief History of Esports and Video Games,” 2016) (“A History of Esports,” 2021). In 2008, a tournament with a prize pool of 2000 euros was held in Sweden. This event pioneered the ladder system, a method of ranking players based on their skill levels (Jonasson & Thiborg, 2010) (Kocadağ, 2019). Valve Company purchased Dota, a MOBA (Multiplayer

Online Battle Arena) game, in 2011. Valve organised the Dota 2 World Championship, which was worth $1.6 million. The prize pool for the Dota 2 World Championship in 2018 was $25.5 million (Kocadağ, 2019).
Over time, the number of esports teams and players has increased. Most esports teams now have rosters, coaches, and team personnel. Professional esports players earn between $1500 and $5000 per tournament and win 80% of the prize pool (H.B. DURAN, 2016) (Kocadağ, 2019). It is important to note that today's youth idolizes esports athletes. Esports athletes serve as role models for them. Sumail Hassan, for example, won the Dota 2 World Cup with his team Evil Geniuses at the age of 16. In 2016, he and his four teammates were awarded $6 million. When they won the tournament, it became one of the most iconic moments in esports history (Kocadağ, 2019). Danil was another esports player. He won the first Dota 2 World Cup with his team Natus Vincere. The Dota community has dubbed him "The Face of Dota" (Pumsanguan & Thithathan, 2022).
According to reports (Kocadağ, 2019). esports players have weekly gaming sessions ranging from 6 to 42 hours. 30% of teenagers who are interested in esports play video games for more than five hours per (The ESports Effect: Gamers and the Influence of Live Events, n.d.). The urge to pursue an esport profession grows, psychological well-being may suffer. As a result, the goal of this research is to strike a balance between academics and the amount of time young people spend playing video games on a daily basis, leading to long-term esports careers. Despite of its significance, a controversy appears in the existing body of knowledge to consider esports as a sports or not?

Esports: A sport or not:

So far, it has been debated whether esport is a real sport or not (Bousquet & Ertz, 2021b). Esports and traditional sports share characteristics such as frequent training, strategy, competition, talents, teamwork, and flawless execution of pre-planned tactics (Martončik, 2015)(B. Hutchins, 2006). Esports athletes, like traditional athletes, train with coaches (Reitman et al., 2020) (Kocadağ, 2019) (Seth E. Jenny & R. Douglas Manning, n.d.). Esport, on the other hand, does not require as much physical activity as traditional sports.
Despite the debates, esports is recognized as a branch of sport in most nations. While the controversy over whether esports should be classified as a sport continues, "esports is increasingly becoming more acknowledged as a sport, and gamers are being labeled as athletes in society today" (Seth E. Jenny & R. Douglas Manning, n.d.)(Thiel & John, 2018). Similar discussions can be found in scholarly literature and continue to this day. According to Garca and Murillo (2019), there is a link between younger generations, especially men, playing sport video games that mimic sporting activity. This indicates "sports video game interest as a sport-related activity." (Matuszewski et al., 2020) (Cranmer et al., 2021).

Esports: In academies

"For the first time in 1972, Stanford students hold the first known collegiate videogame competition for the combat game Spacewarl." In the United States, Robert Morris University in Chicago was the first to offer League of Legends scholarships in 2014 (Sugishita, n.d.). UC Irvine establishes a varsity program in 2016 that includes a 3500-square-foot gaming field. The following year, in 2017, Maryville University in St. Louis wins the League of Legends collegiate championship. Riot Games announced over $500,000 in scholarships to Big Ten college students by the start of the 2018 academic year, and nearly 26000 people watched the victory on YouTube. In contrast, plans for a $6 million, 11200-square-foot esports centre at Florida's Full Sail University were unveiled in October 2018. In March 2019, ESPN (Entertainment and Sports Programming Network) Cruzeiro Esporte Club (CEC) discovered the college esports championship." (Sugishita, n.d.). Educators are also investigating the use of eSports to recruit students through competitive video gaming. (Delello et al., 2021; Seng & Yatim, 2014).

Teaching with video games and esports

The educational landscape has shifted dramatically in the last decade. Students have developed a taste for digital learning, and teachers must try to provide them with activities and curricular vehicles that they will enjoy. It is the responsibility of educators to prepare students for a future in which they must be able to understand both the physical and digital worlds. Teacher educators must anticipate what skills, lessons, tactics, and values their students will require in their future occupations (Harvey, n.d.).

Esports: structure a sense of belonging in institute

Many middle and high schools have esports groups affiliated with traditional sports, with the goal of advancing their school through competitions with other schools. This may assist students in developing a sense of belonging, networking with players from other teams, and developing a consistent work ethic. They easily collaborate with other members, motivates them to win and appear as a strong single whole entity rather than an individual, which ultimately becomes a source of enjoyment and self-learning. Several schools reach out to students through clubs and internal events. National organizations like NACEF, HSEL, and Play VS claim to help institutions across the country (Seng & Yatim, 2014).

Esport: innate psychological needs

According to self-determination theory (SDT), three key psychological demands that increase motivation are autonomy, competence, and relatedness. SDT appears to be an appropriate theoretical framework for

describing players' motivations to participate in esports." (Delello et al., 2021). In fact, a recent study found that engaging in eSports activities can meet the basic innate psychological demands of relatedness, motivation, and enjoyment (Qian et al., 2022). Computer games aren't just for fun; they can also be a valuable source of self-learning for students. (Seng & Yatim, 2014).
The manifestation of play, according to Dutch theorist Johan Huizinga (1955), satisfies all kinds of communal aspirations and provides a common tie among human beings (Harvey, n.d.). "Games as learning should make every student a proactive, collaborative, reflective, critical, creative, and innovative problem solver,"(Gee, 2003) (King et al., 2021). Over the last decade, researchers have looked into how video games might boost creativity, critical thinking, teamwork and communication abilities (Shute & Ke, 2012). Researchers have also investigated the complex social practices that surround esports, as individuals play and manage developing esports governing bodies (Seo, 2013).

Sponsorships creating worth for the esport industry

"Sponsorships are rapidly becoming one of the most important business strategies for increasing revenue." Both the sponsor and the sponsee benefit from sponsorship. Because of its massive audience and, of course, growing awareness of the trend, the eSport industry is currently a good fit for this marketing strategy. Following this rapid growth, numerous companies have begun to participate in these electronic gaming groups. For example, large corporations such as Intel, Coca-Cola, Red Bull, and others are constantly investing in this industry" (Delello et al., 2021). This trend is currently worth over $900 million. Sponsors find electronic sports to be incredibly beneficial due to these considerations.

Esports in Pakistan

“Pakistan has numerous gamers, although it is not yet a gaming hotspot. Several organizations in Pakistan, however, are working to keep esports alive. For example, Dew Arena and Gamebird. Arslan Ash, a Tekken player from Lahore, stunned the world by winning EVO Japan and USA in 2019 and was named ESPN E-Player of the Year. Pakistan is gradually establishing itself as a significant player in the billion-dollar esports market" (Tahir, 2021). As local e-players gain global renown in Tekken, PUBG, Valorant, and CS:GO, the government is beginning to recognise and award esports the status of "legitimate sports." This is unquestionably the first step toward creating a full-fledged esports industry. How valuable is this industry, however? How much money do e-players make per month, for example? What must be done for Pakistan's esports career to take off?
The data above shows that the Esports industry provides numerous benefits not only as an individual but also as a team, which boosts the economy and provides not only psychological but also career benefits. This literature review examines how esports are gaining popularity around the world. This research will assist the researcher in overcoming the challenges of implementing an academic esports curriculum in Pakistani universities. It will be interesting to see how faculty and students in Pakistan react when problem-solving, career-oriented esports competitions are introduced in the near future.

AIM OF THE STUDY AND HYPOTHESES:

To fulfill the aims of resrach study following three hypotheses are formulated:

- H1: There is a significant difference in the opinions of major groups of teachers and students regarding the implementation of esports in higher education (university of Pakistan)
- H2: there exist is a significant difference between the reviews of subgroups (freshman and final year students) and (engineering and Non–engineering students) for considering esports as important as other traditional sports and where students require institutional guidelines for pursuing career in esports.
- H3: there exist is a significant difference between the reviews of subgroups (early-career, mid-career, late-career) teachers if they are familiar with professional esports and see esports as platform to build a career in higher education.

RESEARCH METHODOLOGY

The period of data collection began in March 2022 and ended in May 2022The questionnaire was written in English because it is a universal and easy-to-understand language. The approach used to conduct this investigation consisted of two major steps. First, a systematic review of the literature was conducted using the Petticrew and Robert method (2008). The second step of the research used a quantitative technique based on George and Bennett's Structured and Focused Comparison method to examine the significant differences in students' and teachers' opinions about the implementation of esports programs in Pakistani universities. Following that, data was collected using self-administered and web-based questionnaires (Google forms).

Participants

Participants in the study include students and lecturers from Pakistan's public and private universities who are familiar with Esport tournaments. In this study, the sample sizes for university students and university teachers

were determined to be 370 and 76 samples, respectively. Teachers (both senior and junior level) and students (first-year and final-year students) from public and private sectors are included in this demographics.

Table 1. The study group:

groups	Number N	Web-based N_w	Self- administrative N_S
Students	N_s= 370	157	213
Teachers	N_T=76	32	43

Research Tools

For data collection, we used questionnaires. There were closed-ended and open-ended questions in the questionnaire. The questions are further divided into three sections:

Part 1: Demographic information of respondents.

Part 2: The level of opinion about factors contributing to eSports.

Identification factors as eSport viewers (Identification) and the level of opinion about eSports attitudes. This section was graded on a 5-point Likert scale.

Part 3: open-ended question (descriptive reviews regarding esports)

Analysis Tools:

- Excel
- IBM SPSS Statistics 26.

Analysis test:

- Anova test
- Reliability test

Data collection and analysis

Microsoft Excel was employed to organize and categorize all quantitative data. As the data consist of two parts closed and open-ended questions, the percentage employed 85% and 15% of the data respectively. After selecting two major groups (students and teachers), identify sub-groups for comparative analysis. Firstly, comparative analyses were performed on all quantitative data in IBM SPSS Statistics 26. Anova test is performed between the groups and within the groups in SPSS. Scheffe's post hoc approach was used in case the Anova test comes out significant to determine where the significance is <0.05. Simple linear regression analysis is used to determine the bell shape histogram.

Table 2. Descriptive Analysis of participants (N=446)

	Variable	Category	Frequency	Percent (%)
Students	**Gender**	Male	180	49%
		Female	190	51%
	Discipline	Engineering	224	61%
		Non-Engineering	146	39%
	University	Private	39	11%
		Public	331	89%
	Years of Study	First year	221	59%
		Final Year	149	41%
Teachers	**Year of experience**	Early Career	32	42%
		Mid-Career	38	50%
		Late-Career	6	8%
	Gender	Male	42	58%
		Female	34	42%

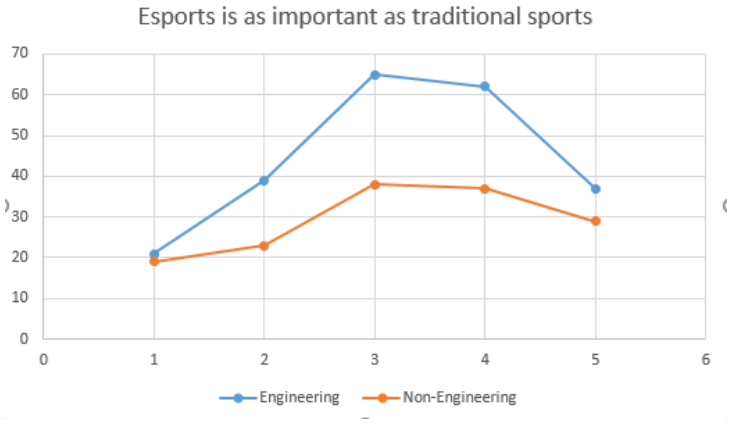
FINDINGS

The survey is a hybrid of self-administered and web-based Google forms, with 17 questions for the student survey and 15 questions for the teacher survey. Before submitting the final application, the survey was sent to on-campus PhD-staff members for feedback. The following section reports and compares findings from two major groups: teachers and students. When contacted via the administrative method, a total of 213 (students) and 43 (teachers) individuals agreed to participate in the survey, respectively. However, after creating Google web-based surveys, a total of 370 (Ns=370) and 76 (N_T=76) usable surveys for students and teachers, respectively, were collected. There were 190 females, 180 males, 224 Engineering, 146 Non-Engineering, 39 private and 331 public, 221 first-year and 149 final-year students among the 370 respondents in Group 1 (students). In Group 2 (teachers) 32 were early-career, 38 mid-career, 6 late-career, 42 males and 34 females. For details, please refer to Table (2).

RESULTS:

Engineering and Non engineering group of students

Figure 1. Esports is as important as other traditional sports



The graph above shows that there is no significant difference between the engineering and non-engineering groups of students because the graphical trend displaying student reviews is the same. Both groups have a peak value of 'neutral,' indicating that they are unsure whether esports are as important as other traditional sports.

Table 3. ANOVA Test: Sum of squares, df, Mean square, F, Sig.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.019	1	.019	.012	.912
Within Groups	562.413	366	1.537		
Total	562.432	367			

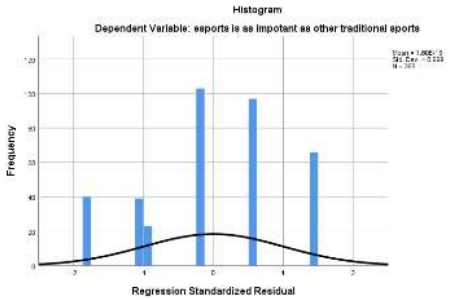
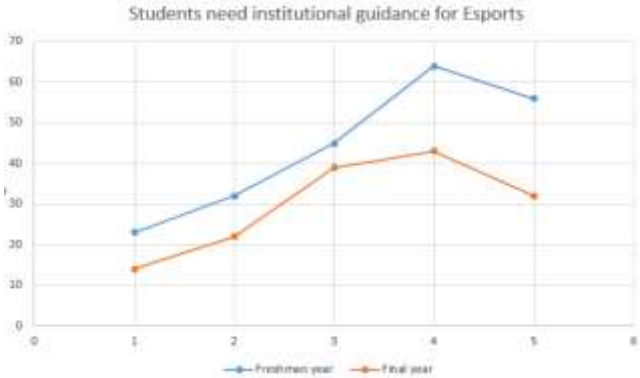


Figure 2. Histogram: Linear regression residual test

The bell curve graph indicates that the data is normal, the Anova test was chosen to compare these two groups based on the histogram results using regression standardized residual. one-way ANOVA test was performed on questionnaire data groups 1 and 2, and the resultant significance value (p-value) was 0.912, which was greater than the alpha value, indicating that the resultant ANOVA test supported the null hypothesis, Df = 367, sq = 0.019, p = 0.912, f = 0.012. As a result, the alternative hypothesis is rejected (p >0.05).

Fresh and final year group of students

Table 4. Students need institutional guidance

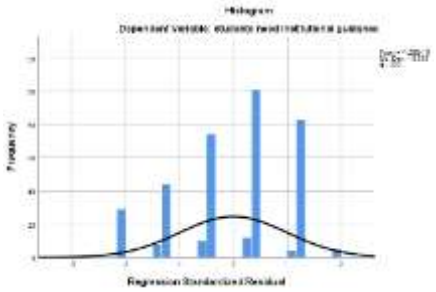


Above graph shows there is no significant difference between freshman and final year group of students because the graphical trend is the same with minor diversion in two lines. Both group shows peak value at 'Agree' so they considered that students need institutional guidelines for pursuing career in esports.

Table 5. ANOVA Test: Sum of squares, df, Mean square, F, Sig.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.786	1	.786	.488	.485
Within Groups	588.929	366	1.609		
Total	589.715	367			

Figure 3. Histogram: Linear regression residual test



Because the bell curve graph indicates that the data is normal, The one way ANOVA test was performed on the questionnaire data groups 1, 2, and the resultant significance value (p-value) was 0.485, which was greater than the alpha value, indicating that there is no statistically significant difference between fresh and final year students regarding their consideration that if students need institutional guidance for Esports Df= 1, means sq=.786, p=0.485, f=.488. As a result, the null hypothesis is supported (p >0.05).

Early Career, Mid-career and late-career group of teachers

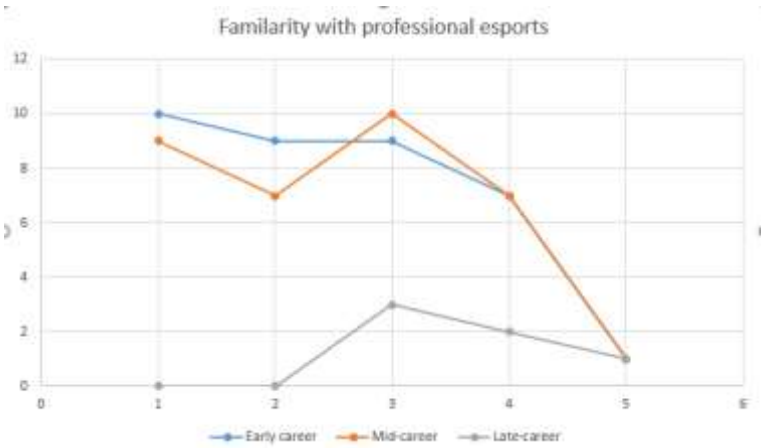


Figure 4. Familiarity with professional esports

bove graph shows there is a substantial difference between three groups of teachers' because there is a drastic change in graphical trend of these three lines. Teachers with early career shows peak value at 'not so familiar with professional Esports' while other two groups are more neutral towards it means they are 'somehow familiar'

Table 6. ANOVA Test: Sum of squares, df, Mean square, F, Sig.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9.422	2	4.711	3.541	.034
Within Groups	97.105	73	1.330		
Total	106.526	75			

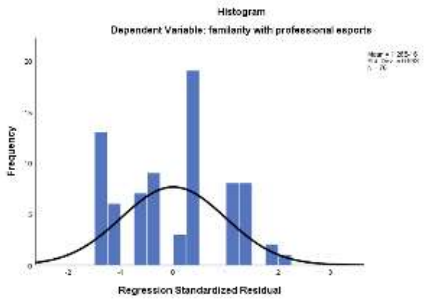
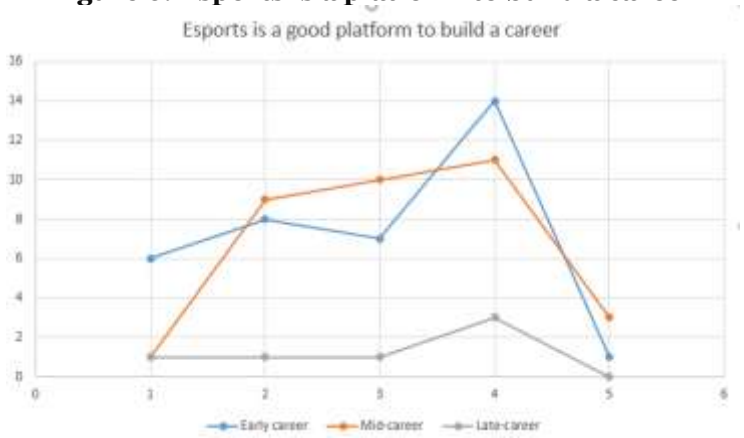


Figure 5. Histogram: Linear regression residual test

The bell curve graph shows the normality of data .Group 1 early career 2, 3 the resultant of significance value (p-value) was achieved as 0.034 which is less than the alpha value, therefore, supporting the alternate hypotheses indicating that there is a statistical difference between the experienced, mid-level career and early career experienced teacher regarding their knowledge with professional Esports. Df= 75, means sq= 4.737 , p=0.034, f= 3.541. So the null hypothesis is rejected as (p <0.05)

Figure 6. Esports is a platform to build a career



Above graph shows there is a substantial difference between three groups of teachers' early career, Mid-career and late career because there is a drastic change in graphical trend of these three lines. Teachers with early career shows highest peak value at 'Agree' at Esports' is good platform to build a career while other two groups shows the same peak point but with less number of teachers.

Table 7. **ANOVA Test: Sum of squares, df, Mean square, F, Sig.**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9.474	2	4.737	5.171	.008
Within Groups	66.881	73	.916		
Total	76.355	75			

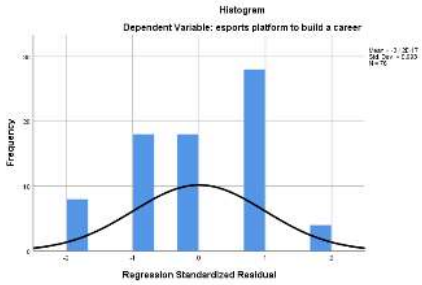
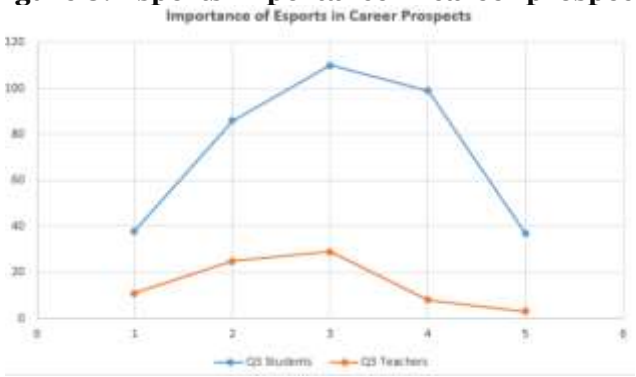


Figure 7. Histogram: Linear regression residual test

One way Anova test was performed on the questionnaire data group 1, 2, 3 the results of significance value (p-value) was achieved as 0.008 which is less than the alpha value, therefore, the resultant of the Anova test supporting the alternate hypotheses indicating that there is a statistically difference between the experienced, mid-level career and early career experienced teacher regarding their consideration if Esports is a platform to build a career. The above table results in the resultant values of one way Anova test. Df= 75, means sq= 4.737, p=0.008, f= 5.171. So the null hypothesis is rejected as (p <0.05).

Teachers and students comparative Analysis

Figure 8. Esports importance in career prospects



Above graph shows there is a crucial difference between two groups' university students and teachers because the graphical trend is not same in these two lines. Both group shows peak value at 'somehow important' but the group of students divert more towards Esports is 'important' in career prospects while teachers considered it much 'less important'

Table 8. ANOVA Test: Sum of squares, df, Mean square, F, Sig.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13.571	1	13.571	10.772	.001
Within Groups	559.344	444	1.260		
Total	572.915	445			

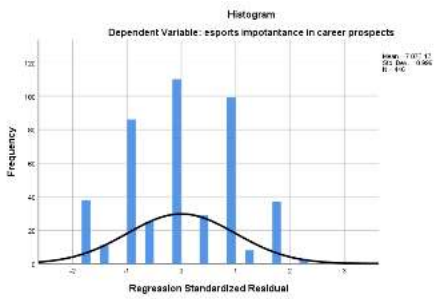
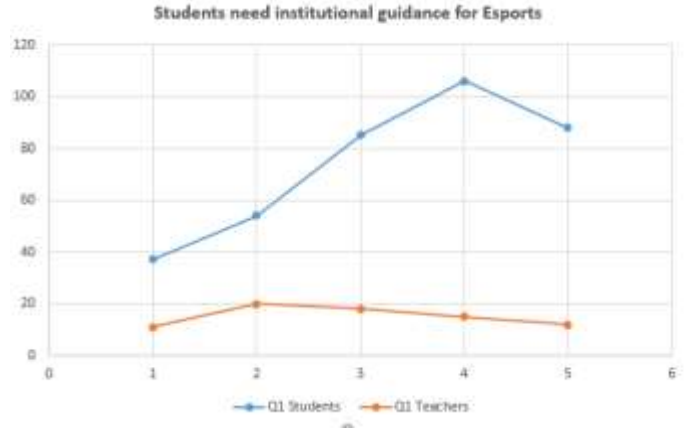


Figure 9. Histogram: Linear regression residual test

The bell curve graph shows the normality of data. One way ANOVA test was performed on the questionnaire data group 1,2 the resultant significance value (p-value) was achieved as 0.001 which is less than the alpha value therefore the resultant of Anova test supporting the alternate hypotheses indicates that there is a statistical difference between the students and teachers of the university as major groups regarding their consideration if Esports is important in career prospects. The above table in results the resultant values of one

way Anova test, Df= 572.915, means sq= 13.571, p=0.001, f= 10.772. So the null hypothesis is rejected as (p <0.05).

Figure 10. Students need institutional guidance for Esports

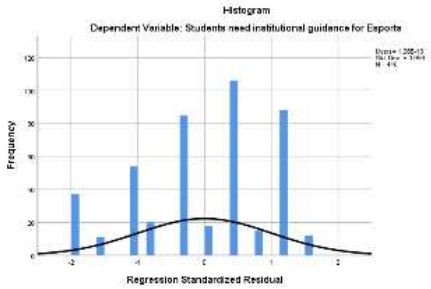


Graph shows there is a crucial difference between two groups' university students and teachers because the two lines show totally different graphical trend. Group of student shows peak value at 'Agree' but the group of teacher divert more towards 'disagree' to the statement if students need institutional guidelines for Esports in career development.

***Table 9*. ANOVA Test: Sum of squares, df, Mean square, F, Sig**

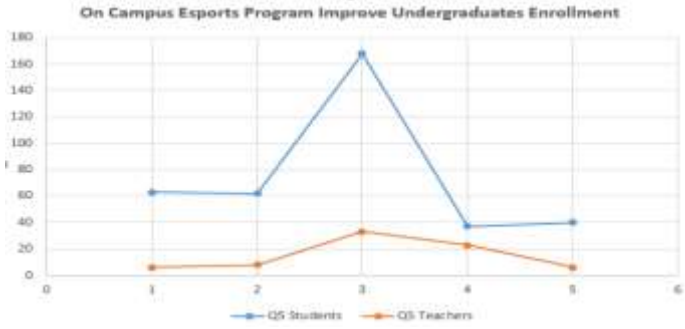
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13.092	1	13.092	8.043	.005
Within Groups	722.784	444	1.628		
Total	735.877	445			

Figure 11. Histogram: Linear regression residual test



The bell curve graph shows the normality of data. One way ANOVA test was performed on the questionnaire data group 1, 2 the resultant of significance value (p-value) was achieved as 0.001 which is less than the alpha value, therefore, the resultant of Anova test was supporting the alternate hypotheses indicating that there is a statistical difference between the students and teachers of the university as major groups regarding their consideration if Esports is important in career prospects. The above table results in the resultant values of one way Anova test. Df= 445, means sq= 13.092 , p=0.005, f= 8.043. So the null hypothesis is rejected as (p <0.05).

Figure 12. Esports improve ungraduated enrolment

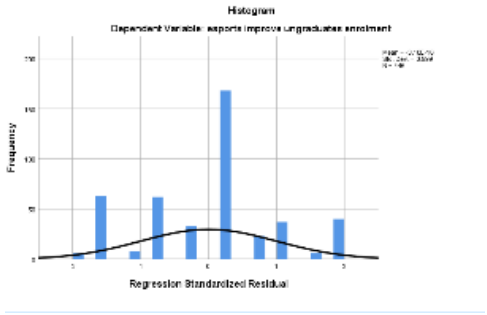


Above graph shows there is a dominant difference between two groups' university students and teachers because the two lines show a thoroughly different graphical trends. Both group shows peak value at 'Neutral' but the group of students divert more towards 'strongly agree' while teachers considered it other way around means do not agree more on this statement that on campus Esports program improve undergraduate enrollment in coming years.

Table 10. ANOVA Test: Sum of squares, df, Mean square, F, Sig

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9.553	1	9.553	7.397	.007
Within Groups	573.415	444	1.291		
Total	582.969	445			

Figure 13. Histogram: Linear regression residual



One way ANOVA test was performed on the questionnaire data group 1,2 the resultant of significance value (p-value) was achieved as 0.001 which is less than the alpha value, therefore, the resultant of Anova test was supporting the alternate hypotheses indicating that there is a statistical difference between the students and teachers of the university as major groups regarding their consideration if Esports is important in career prospects. Df= 445, means sq= 9.553 , p=0.007, f= 7.397. So the null hypothesis is rejected as (p <0.05).

Discussion

The goal of this study was to compare teacher and student reviews that demonstrate students' and teachers' desire for an Esport career at the institutional level. This study also compares the major groups of university students and university teachers, as well as their subgroups, which are students subgroup-1 (engineering and non-engineering), subgroup-2 (freshman and final year), and teachers subgroup-1 (early career, mid-career, late-career) and subgroup-2 (freshman and final year) (Private and Public sector). Interestingly, there was a significant difference in student and teacher opinions about the adoption of Esports as a degree program in Pakistani universities. Sub-groups were formed within each group to obtain insightful information from the data. Participants, including teachers, were divided into three sub-groups based on their experience, for example 1 = early-career (less than 5 years of experience), (n= 32) 2=mid-career (6-15 years of experience), (n=38) 3=late-career (over 15 years of experience), (n=8) Similarly, the student group was divided into 1=freshman (1st year+ 2nd year), (n= 32), and 2=final year (3rd year+ 4th year) students based on their years of study in the program, as well as 1=Engineering (All engineering fields), (n= 223) and 2=Non- Engineering (Design, business, medical, etc), (n= 147) groups based on their discipline. The results show that both subgroups-1 (engineering and non-engineering students) are uncertain if Esports is as important as other traditional sports. While subgroup-2 (freshman and final year group of students) shows peak value at 'Agree' so both groups considered that students need institutional guidelines for pursuing a career in esports. On contrary, the results of the comparison between teacher subgroups (early career, Mid-career, and late career) there was a drastic change in the graphical trend of these three lines. Presumably, teachers with early careers are not so familiar with professional Esports' while the other two groups are somehow familiar with professional Esports. This appears to be an interesting finding supported by the statistical tests. Teachers with early careers agreed and considered Esports as a good platform to build a career, which was contradicted by the responses of the other two groups (mid-career and late-career).

Results of this study showed that there was a key difference between the two major groups of university students and teachers because their opinion showed totally different graphical trends. The group of students showed peak value at 'Agree' but the group of teachers inclined more toward 'disagree' to the statement that students need institutional guidelines for Esports in career development. Furthermore, these results support previous studies focusing development of esports as a career i.e., young students' desire of having an Esports career over any other field was an important finding, which is in parallel with (Kocadağ, 2019).This study provides valuable data on which future research can be conducted. These will be useful in expanding on the findings of this study. Similarly, further research may be beneficial by employing a qualitative approach to

exploring the literature in order to develop a conceptual model and propose guidelines to guide policymakers in applying an Esports career-oriented approach in academia in Pakistan.

Limitations

One of the limiting factors was the consideration of just the engineering and non-engineering groups which may not encompass other major disciplines (i.e., medical, design, etc.). Another limitation of the research was the consideration of non-equal variance when comparing teachers and student groups. The author attempted to address this limitation by considering non-equal variances when applying the statistical analysis. Another potential reason is the non-equal teachers-student ratio in most universities across the globe. However, it is suggested for future researchers to further narrow down the gap between the groups by considering more teaching faculty members which may provide true opinions about the teaching fraternity. Likewise, while designing the questionnaire, just a couple of open-ended questions were inquired about post-processed through NVIVO. The findings, however, cannot be generalised based on the small number of open-ended questions used. Similarly, the findings of this study are very much limited to a specific geographical location (Punjab, Pakistan). As a result, the aforementioned findings should not be extrapolated to other parts of the country or the world.

The internal validity of the study could have been compromised by the fact that some aspects were not measured or observed, such as qualitative analysis e.g. face to face interviews, and also less number of audience for teachers due to some pandemic issues (Covid19 wave) and teacher's unavailability at the time of research. These limitations can be catered to by future researchers by reconsidering the study design.

Future recommendations

In future a researcher can check on this study by targeting a specific discipline and in context of Pakistan by comparing it with the bachelors and master's degree program in countries of United States. Also one can improved the regress post processing phase of this research study by catering all the mentioned limitations. The future researcher can collect data not only through questionnaire instead only worked of qualitative data and find the results e.g. interviews

Moreover, it is assumed that if a future researcher can work only on qualitative research and make a conceptual model of literature specifically in context of Pakistan. He can provide guidelines how we can add courses in career development of Esports. Anyone can only do systematical literature reviews on Esports career development in context of Pakistan. E.g. He can only check from 1950-present how much papers has been published in context of Pakistan based on Esports in career development and also high light the significance of games in careers and then compile it in form of document.

Conclusions

In order to check those differences between the groups of students and teachers including their subgroups regarding their reviews of esports implementation in universities of Pakistan, the Anova test was considered as most appropriate. Initially, the distribution of the data was checked using the regression standardized residual method using SPSS software. The distribution of data was considered normally distributed and checked through the histogram.

According to the study's findings, undergraduates are indeed interested in esports and esports course offerings, and as such, they could serve as a valuable target market for marketers and university administration. As a result, institutions that are looking for ways to recruit more students or are investigating the possibility of establishing a club or varsity-level esports team could take advantage of the chance to draw in esports fans and raise enrolment as a whole. This strategy has been successful in traditional sporting contexts (Anderson et al., 2021) (Delello et al., 2021).

The findings of this study indicate that e-Sports can be used to fulfill a variety of needs, such as pursuing a career at the institutional level, earning money for studies, satisfying the need to belong by establishing friendly relationships, or satisfying the need for power by maintaining the position of a game team leader and directing its course of action. Instead, the research implies that e-Sports, a particular type of computer game activity, might be a worthwhile method for young people not only to pass the time and express themselves in the quickly evolving modern world but also providing potential pathways to pursue career in esports.

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