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Relationships between Undergraduates' Gamer Identities, Behavioral Intentions toward Gaming, and the Educational Value of Esports Games

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ABSTRACT
Digital games have garnered increasing attention in recent years. The aim of this study is to examine the concepts of identity, behavioral intention, and educational value within the context of digital games. In this regard, the study seeks to identify the relationships between gamer identity, behavioral intention toward gaming, and the educational value of esports games. The research is designed based on quantitative methods. The population of the study consists of undergraduate students who participate in digital gaming activities. From this population, 726 participants were reached through convenience sampling. For the evaluation of the responses, analyses were conducted using reliability tests, descriptive statistics, correlation, and parametric significance tests. The results of the analyses reveal that the concepts are significantly and positively correlated with one another ($p<0.05$). Additionally, it was found that participants' views vary depending on their gamer status ($p<0.05$). In conclusion, addressing these concepts collectively supports the understanding of digital games not only as entertainment tools but also as platforms that contribute to individual and societal development.

1. INTRODUCTION

Digital games have evolved beyond merely being a form of entertainment to become a significant space where individuals express and reconstruct their identities. Gamers develop unique identities through the avatars they create, their in-game interactions, and their achievements on digital platforms. The concept of digital gamer identity is a multidimensional construct situated at the intersection of individual and social dynamics.

Digital games have become a significant domain in today's rapidly digitalizing world, addressing individuals' needs for entertainment, socialization, and learning. In this context, behavioral intentions toward digital games are shaped by a complex process influenced by both individual and environmental factors. Behavioral intentions provide critical insights into gamers' motivations for gaming and their preferences.

Esports has emerged as a rapidly growing global phenomenon, gaining popularity among young people in recent years. This rising popularity has brought forward the idea of utilizing esports not only for entertainment but also as an educational tool. The educational value of esports lies in the numerous opportunities it offers to develop cognitive, social, and emotional skills.

The aim is to examine the concepts of identity, behavioral intention, and educational value in the context of esports when determining the research topic. In the literature, there are studies that explore the relationships between these concepts in various fields of study. Qasim et al. [1] examine the determining role of environmental self-identity on consumption values and intentions to consume organic products. This study investigates how individuals' perceptions of value, associated with their environmental self-identity, influence their behavioral intentions. Jiang et al. [2] explore how value-based behavioral intentions are shaped in the context of the educational sector in their study, which applies social identity theory and consumer value theory to explain sustainable consumption behaviors. Becerra et al. [3] examine how young adults' perceptions of green self-identity and product value influence their pro-environmental behavioral intentions. The impact of educational levels on these relationships is also evaluated. Cheng & Chu [4] investigate the effects of intentions

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to enroll in educational ethics courses within the context of the expectancy-value model. This study demonstrates how individuals' perceptions of educational content influence their behavioral intentions. Zhang et al. [5] examine the role of educational level and perceived values in their study on how national identity education influences individuals' perceptions of educational value and their behavioral intentions.

The issue identified as the research problem in this study is the presence of studies in the literature addressing the concepts under investigation; however, the relationships between these concepts remain unexplored. The originality of the research stems from its aim to determine these relationships in the esports concepts. To achieve this goal, the study seeks answers to the following research questions:

1) Is there a significant relationship between the concepts of gamer identity, behavioral intentions toward digital games, and the educational value of esports games based on participant responses?
2) What is the level of participants' attitudes toward gamer identity, and do these attitudes differ according to demographic characteristics?
3) What is the level of participants' behavioral intentions toward digital games, and do these intentions differ according to demographic characteristics?
4) What is the level of participants' perceptions of the educational value of esports games, and do these perceptions differ according to demographic characteristics?

In this context, the primary aim of this study is to assess undergraduates' gamer identities, behavioral intentions toward digital gaming, and their perceptions of the educational value of esports games. In line with this aim, the study seeks to identify the relationships between the concepts that constitute the research focus. Another objective of the study is to determine whether participants' views vary according to their demographic characteristics.

1.1. Literature review

1.1.1. Gamer identity

Digital games have evolved beyond merely being a form of entertainment to become a significant space where individuals express and reconstruct their identities. Gamers develop unique identities through the avatars they create, their in-game interactions, and their achievements on digital platforms. The concept of gamer identity is a multidimensional construct situated at the intersection of individual and social dynamics.

Gamer identity reflects individual experiences and preferences. Gamers often project their ideals and personal traits onto their in-game identities [6]. Particularly in role-playing games (RPGs), gamers have the opportunity to redesign their identities and experience an alternative personality. This process diversifies ways of self-expression and creates a dynamic interaction between personal identity and in-game identity [7].

Social dynamics also play a pivotal role in shaping gamer identity. Online gaming communities enable individuals to form social bonds that strengthen their sense of belonging [8]. In team-based games, gamers adopt roles within the group, constructing a social identity. Furthermore, global online platforms allow individuals to interact with people from diverse cultural and social backgrounds, fostering the development of a global identity [9].

The impact of in-game performance and achievements on individual identity perception is another critical dimension. Successes achieved in games can boost gamers' self-confidence, providing psychological satisfaction, especially among younger gamers [10]. Additionally, digital games contribute to identity development by enhancing problem-solving and teamwork skills.

Gamer identity is a complex structure shaped by the interplay of individual and social dynamics. This identity helps us understand how individuals express themselves, experiment with different personalities, and establish social connections in the digital world. Examining gamer identity is crucial for understanding modern digital culture and human interactions.

1.1.2. Behavorial Intentions Toward Gaming

Research indicates that individuals' behavioral intentions toward digital games are often influenced by intrinsic motivations. While the pursuit of entertainment emerges as a fundamental element of the gaming experience [11], factors such as social interaction and identity formation also play key roles in shaping gaming intentions [6]. In massively multiplayer online role-playing games (MMORPGs), the desire to interact with others and join communities significantly influences behavioral intentions [12].

Technology acceptance models also play an important role in shaping behavioral intentions toward digital games. The Technology Acceptance Model (TAM) provides an effective framework for explaining gaming intentions through perceived ease of use and perceived usefulness of gaming technologies [13,14]. Games with user-friendly

interfaces, such as mobile games, have a strong impact on forming behavioral intentions due to their accessibility and ability to reach a wide gamer base.

Environmental factors are critical in understanding behavioral intentions toward digital games. How games are perceived in a cultural context and the impact of game content on gamers significantly influence their behavioral intentions [15]. Additionally, design elements such as reward systems and in-game purchasing mechanisms shape gamers' gaming frequency and attitudes toward games [16].

Behavioral intentions toward digital games are a multidimensional construct formed through the interplay of individual motivations, technology perception, and environmental factors. Understanding these intentions can serve as a valuable guide for analyzing gamer behavior in the digital gaming industry and designing more engaging gaming experiences.

1.1.3. Educational Value of Esports Games

In recent years, the increase in esports research has facilitated the field's examination by various disciplines. Among these fields, business, sports, informatics, law, media, and sociology can be cited as examples [17,18]. In addition to these, the esports phenomenon also needs to be scientifically studied within the field of education. The literature includes studies that address the contributions of digital games to individuals.

Esports games significantly contribute to the development of cognitive skills. Strategy-based games, in particular, can enhance gamers' problem-solving, decision-making, and critical thinking abilities [19]. Additionally, games requiring quick action and reaction help gamers improve essential cognitive skills, such as attention control and hand-eye coordination [20].

From a social skills perspective, esports games provide opportunities for collaboration and teamwork. In team-based games, gamers can develop skills such as communication, leadership, and managing group dynamics [21]. These experiences can strengthen individuals' social interactions and foster the development of practical social skills applicable in real-life situations.

Another dimension that enhances the educational value of esports is emotional development. Participating in a competitive environment allows individuals to develop emotional skills, including stress management, self-regulation, and self-confidence [22]. Moreover, the reward and feedback mechanisms offered by esports games can boost gamers' motivation, supporting their learning processes.

To effectively harness the educational potential of esports, more research is needed on how these games can be integrated into teaching processes. Educators must recognize that esports is not just about gaming but also serves as a tool that can promote learning. Indeed, Borggreffe and Hoffmann [23] state that the educational aspect of esports can also be integrated into fields such as health, economy, politics, and mass communication beyond the domain of education.

1.1.4. Relationships Between Concepts

The development of identity in digital games is closely linked to individuals' behavioral intentions toward gameplay, both of which significantly influence their perceptions of educational value. Identification with game avatars can affect self-presentation in digital environments and enhance motivation for learning [24,25]. Game-based learning environments support not only cognitive but also social development by enabling learners to improve their problem-solving, collaboration, and strategic thinking skills [26,27]. These interactions with digital games also strengthen individuals' behavioral intentions toward technology use [28,29]. Within the framework of social identity theory, gamer identity emerges as a sense of belonging that increases individuals' willingness to adopt games for educational purposes [30,31]. According to technology acceptance models, this intention is directly related to the perceived usefulness and ease of use of the games [28,32]. In conclusion, the dynamic interaction between identity, intention, and educational value supports the recognition of digital games not only as entertainment tools but also as effective learning instruments.

2.1. Theoretical Framework

The theoretical foundation of this study is grounded in two well-established theories: Social Identity Theory [33] and the Theory of Planned Behavior [34]. These theories offer a comprehensive framework for understanding how gamer identity and behavioral intentions are shaped in the context of digital gaming and esports.

2.1.1. Social Identity Theory

Social Identity Theory posits that individuals form their self-concepts based on their perceived membership in social groups, which in turn influences their attitudes and behaviors [33]. In this context, gamers' identification with the gamer community constitutes a salient social identity. Especially for professional players, the internalization of this identity is stronger and may significantly influence their behavioral inclinations

toward games. The social bonds formed within gaming communities not only reinforce identity construction but also shape participants' engagement, openness to educational outcomes, and social interactions. Thus, the interplay between individual and group dynamics becomes critical in explaining how gamer identity contributes to behavior.

2.1.2. Theory Of Planned Behavior

Complementing this, the Theory of Planned Behavior asserts that behavioral intentions are determined by three key components: attitudes toward the behavior, subjective norms, and perceived behavioral control [34]. In this study, behavioral intention toward digital games reflects individuals' motivation to engage in gaming activities and their commitment to sustained participation. Attitudes (e.g., perceived educational value of games), normative influences (e.g., sense of belonging to the gamer community), and self-efficacy beliefs (e.g., gaming skills) collectively contribute to the formation of behavioral intentions. This model provides a structured approach to understanding how internal evaluations and external social influences converge in decision-making processes.

Taken together, these two theoretical perspectives offer a complementary lens through which the relationships among gamer identity, behavioral intentions, and educational value can be interpreted. While Social Identity Theory explains how affiliation with a gamer identity influences engagement and attitudes, the Theory of Planned Behavior elucidates the cognitive processes that underlie the formation of behavioral intentions. The intersection of these frameworks provides a robust conceptual foundation for analyzing how identity and intention interact in the digital gaming environment.

2. MATERIALS AND METHODS

2.1. *Research Model*

This study was conducted using a quantitative research approach. A survey form was employed as the data collection tool, designed to evaluate participants' demographic characteristics as well as their views on gamer identity, behavioral intentions toward gaming, and the educational value of esports games. The study incorporates both descriptive statistics and relational analysis methods to examine the relationships between these concepts. By adopting this approach, the research aims to both describe the current state and test the relationships among variables. This methodology provides a suitable framework for comprehensively addressing the research questions. According to Meadows [35], the benefits of quantitative research methods, particularly in revealing relationships between concepts through systematic data collection and reliable statistical analyses, are highly significant. This study adopted such methods due to the robust framework they provide for understanding relationships between variables and testing hypotheses.

2.2. Population and Sampling

The population of the study consists of undergraduate students who play digital games either casually or professionally. Within this population, the sample of the study comprises 726 participants reached through the convenience sampling method.

The study protocol was approved by the Research Ethics Committee of the Social and Human Sciences of Osmaniye Korkut Ata University (Ethics Committee Approval: 9.4.2025/E.226064). Participant provided informed consent, with the volunteer form covering research details, risks, benefits, confidentiality, and participant rights. The research strictly adhered to the ethical principles of the Declaration of Helsinki [36], prioritizing participant's rights and well-being in design, procedures, and confidentiality measures.

According to Osborne and Costello [37], it is considered ideal in quantitative research to have a sample size at least ten times the number of items included in the scale used. It is believed that the sample size in this study has reached a sufficient number of participants. The distribution of participants according to demographic characteristics is presented in Table 1.

This table presents the distribution of the 726 undergraduate participants in the study according to age, gender, gamer status, and gaming experience. The age variable is categorized as "below average" and "above average" based on the mean age ($\bar{x}$ = 20.17). In terms of gender, male participants constitute the majority with 67.2%, while females make up 32.8%. Regarding gamer status, 57.3% of the participants identified as recreational gamers, and 42.7% as professional gamers. Gaming experience is divided into four categories, with the highest proportion (31.9%) having more than 10 years of experience. This table highlights the diversity of the sample and provides a basis for analyzing the potential effects of demographic variables on the constructs examined in the study.

Table 1. Distribution of participants according to demographic characteristics

Demographic characteristic	Group	Frequency (N)	Percentage (%)
Age ($\bar{x}$ = 20,17)	Below average	372	51.2
	Above average	354	48.8
Gender	Male	488	67.2
	Female	238	32.8
Gamer status	Recreational	416	57.3
	Professional	310	42.7
Gaming experience	≤ 1 years	112	15.4
	2-5 years	162	22.3
	6-9 years	221	30.4
	≥ 10 years	231	31.9

2.3. Data Collection

The survey method was utilized to collect quantitative data for the research. The survey form was designed on the Google Forms platform and distributed to participants online. The form consists of four sections. The first section includes a Personal Information part prepared by the researcher. This section contains items related to the demographic characteristics of the participants. The demographic information requested from the participants includes sexuality, age, gamer status, and gaming experience.

The second section includes the Gamer Identity Scale, which was developed by Yim et al. [38]. This scale is used as a unidimensional measure and consists of 9 items. A five-point Likert model was chosen as the measurement method. In the study by Yim et al. [38], the reliability coefficient of the scale, calculated using Cronbach's Alpha, was measured as .90.

The third section includes the Gamer Behavioral Intention Scale. The original version of the scale was developed by Kim et al. [39] and later adapted to the context of digital games by Yim et al. [38]. This scale is used as a unidimensional measure and consists of 9 items. A five-point Likert model was chosen as the measurement method. In the study by Yim et al. [38], the reliability coefficient of the scale, calculated using Cronbach's Alpha, was measured as .82.

The fourth section includes the Educational Value of Esports Games Scale, which was developed by Ye et al. [40]. The scale consists of 5 factors and 22 items. The factors are named as Cooperative Attitude, Communication Skills, Critical Thinking, Self-confidence and Continuous Improvement Attitude. A five-point Likert model was chosen as the measurement method. In the study by Ye et al. [40], the reliability coefficients of the factors, calculated using Cronbach's Alpha, ranged between .76 and .80.

2.4. Data Analysis

In the study, SPSS and AMOS software were utilized for data storage and analysis. First, frequency and descriptive statistical analyses were conducted to determine the demographic characteristics of the participants. It was observed that the distribution of participants by demographic characteristics ensured frequency and variance homogeneity. Therefore, it was decided to proceed with parametric tests.

To conduct hypothesis testing, skewness and kurtosis values of the obtained data were first examined. The normal distribution criterion was considered as ±1.5 [41]. In this study, skewness and kurtosis values were calculated to range between -1.24 and 1.45. Thus, the data exhibited normal distribution.

To test the validity of the scales used in the research, confirmatory factor analysis (CFA) was applied. Following CFA, various fit indices were examined to assess how well the model fit the data [42,43]. As part of model validity, Average Variance Extracted (AVE) and Composite Reliability (CR) values were calculated, as recommended by Fornell and Larcker [44].

The internal consistency levels of the scales used in the study were evaluated using Cronbach's alpha (α) coefficients, and values above 0.70 were accepted as reliable [45].

To examine the relationships between variables, correlation analysis was conducted. The Pearson correlation coefficient was used to measure the level of relationships. While interpreting the significance of the relationships, the intervals proposed by Cohen [46] and Dancey and Reidy [47] were taken as reference.

To determine whether there were significant differences between demographic groups of independent variables, the Independent Samples T-Test was applied for variables with two groups [46]. For variables with more than two groups, the One-Way ANOVA test was applied [48].

3. RESULTS

Before addressing the research questions, it was evaluated whether the scales used in the study provided a valid and reliable dataset. Firstly, based on the results of the CFA, the model fit indices were examined, and all values were found to be within acceptable levels. Subsequently, the AVE, CR, and Cronbach's Alpha coefficients were examined, and the scales were found to be reliable. In addition, the means and standard deviations of the scale factors were also calculated. The table below presents the values related to the scale factors.

Table 2. Internal consistency coefficients and descriptive statistics of scale factors

Factor	AVE	CR	(α)	SD	($\bar{x}$)
Gamer identity	.63	.87	.83	.67	3.97
Gamer behavioral intention	.70	.91	.88	.62	4.12
Cooperative attitude	.58	.84	.78	.56	4.19
Communication skills	.54	.78	.72	.74	3.94
Critical thinking	.60	.83	.77	.65	4.26
Self-confidence	.60	.85	.80	.51	4.08
Continuous improvement attitude	.66	.88	.84	.59	4.10

The table above presents the results of validity and reliability analyses for the scales used in the study. The Average Variance Extracted (AVE) and Composite Reliability (CR) values calculated for each factor meet the acceptable thresholds proposed by Fornell and Larcker [44]. Specifically, AVE values above .50 indicate that each construct explains a sufficient amount of variance in its observed variables. CR values above .60 demonstrate adequate internal consistency of the constructs. Additionally, the Cronbach's Alpha (α) coefficients for the scales are all above .70. These values align with the reliability criteria suggested by Cronbach [49] and Tavakol and Dennick [50]. Therefore, it can be concluded that each factor is measured consistently and reliably.

A correlation analysis was conducted to answer the first question prepared in line with the research problem. The analysis results reveal that all factors have significant relationships with each other. All of these relationships are positive. When referenced to the study by Dancey and Reidy [47], the strengths of these relationships are interpreted as moderate to high. Table 3 presents the statistical values related to these relationships.

Table 3. Correlations between factors

Factor	GI	GBI	CA	CS	CT	SC	CIA
GI	1						
GBI	.78*	1					
CA	.57*	.59*	1				
CS	.65*	.60*	.74*	1			
CT	.71*	.77*	.79*	.76*	1		
SC	.72*	.72*	.73*	.74*	.72*	1	
CIA	.75*	.71*	.73*	.78*	.73*	.75*	1

*p<0.05

This table presents the Pearson correlation coefficients between Gamer Identity (GI), Gamer Behavioral Intention (GBI), and the five subdimensions of educational value: Cooperative Attitude (CA), Communication Skills (CS), Critical Thinking (CT), Self-confidence (SC), and Continuous Improvement Attitude (CIA). All correlation coefficients are positive and statistically significant ($p < .05$), ranging from .57 to .79, indicating moderate to high levels of correlation. Particularly strong correlations between behavioral intention and factors like critical thinking and continuous improvement suggest a direct connection between gaming motivation and cognitive-developmental tendencies. This table offers empirical support for the theoretical relationships proposed in the study.

When participants' opinions are analyzed based on their demographic characteristics, no statistically significant differences are found between groups for the independent variables of gender, age, and gaming experience (p>0.05). However, findings based on the independent variable of gamer status indicate differences in opinions between groups for certain factors. The values related to these findings are presented in Table 4.

Table 4. T test findings of gamer status

Factor	Group	Mean ($\bar{x}$)	Standard deviation	p
Gamer identity	Recreational	3.78	.66	**.03***
	Professional	4.26	.69	
Gamer behavioral intention	Recreational	3.84	.65	**.04***
	Professional	4.33	.59	
Cooperative attitude	Recreational	3.89	.60	**.00***
	Professional	4.38	.53	
Communication skills	Recreational	3.91	.73	.07
	Professional	4.07	.75	
Critical thinking	Recreational	3.92	.65	**.01***
	Professional	4.40	.64	
Self-confidence	Recreational	4.03	.50	.12
	Professional	4.15	.53	
Continuous improvement attitude	Recreational	3.99	.59	**.00***
	Professional	4.36	.61	

*p<0.05

This table presents the results of independent samples t-tests comparing recreational and professional gamers across the study variables. Statistically significant differences were found in Gamer Identity, Gamer Behavioral Intention, Cooperative Attitude, Critical Thinking, and Continuous Improvement Attitude ($p < .05$). In all cases, professional gamers reported higher mean scores than recreational gamers, suggesting that those more engaged in gaming tend to internalize these constructs more strongly. For the remaining variables, no significant group differences were observed. This table provides a structured overview of how gamer status, as a demographic variable, influences participants' attitudes and perceptions related to digital gaming.

4. DISCUSSION

4.1. Theoretical Implications

This study aims to explore the relationship between gamer identity, behavioral intentions toward digital gaming, and the educational value of esports games, highlighting how these three concepts interact meaningfully. Gamer identity is shaped by gamers' identification with their online avatars and in-game characters. Research emphasizes the impact of this identity on individuals' ability to reflect their ideal selves and construct their social identities [51]. Additionally, the identity formation processes of gamers can positively influence their commitment to the game and their behavioral intentions [52].

In the context of behavioral intentions, factors such as flow and habitual engagement derived from in-game experiences enhance gamers' intentions to continue gaming. Achievements and social interactions within the game play a crucial role in shaping these intentions. For instance, the social aspects of esports games strengthen gamers' friendships and collaboration within communities [53]. The educational value of esports games lies in their potential to support both individual learning processes and social learning opportunities. These games provide an environment where gamers can develop skills such as problem-solving, strategy-building, and teamwork [54]. Moreover, the skills acquired through esports can serve as effective tools for achieving educational goals [55]. The relationships identified between gamer identity, behavioral intention, and the perceived educational value of esports games provide valuable contributions to the theoretical discourse on digital game-based learning. In particular, this study reinforces the relevance of Social Identity Theory and Theory of Planned Behavior in explaining cognitive and affective outcomes in esports contexts.

Research by Yim et al. [38] demonstrated that gamer identity serves not only as a self-concept but also as a cognitive anchor for behaviors such as engagement, persistence, and socialization in game environments. These findings align with the current

study's observation that a strong gamer identity positively correlates with behavioral intentions and the appreciation of educational benefits. Moreover, identity-based motivation appears to play a foundational role in enhancing digital learning outcomes. Additionally, the findings support Ye et al.'s [40] proposition that esports games possess a distinctive educational structure referred to as the "5 Cs": cooperative attitude, communication skills, critical thinking, self-confidence, and continuous improvement attitude. These factors can be interpreted within the three-domain model (TDM) of learning cognitive, affective, and psychomotor thereby establishing a more nuanced understanding of how identity and intention interact with educational functions in esports contexts.

From a theoretical lens, this alignment suggests that gamer identity not only shapes behavior but also mediates the perceived usefulness and value of gaming activities. The synergy between identity salience and intention formation has implications for both educational psychology and game-based instructional design. The study by Sun et al. [25] further deepens our understanding of how gamer identity, particularly in the context of educators, influences behavioral intentions toward digital game use in instructional settings. Their findings highlight that teachers with higher gamer identity scores demonstrated significantly more permissive and flexible disciplinary attitudes regarding students' digital gameplay especially in areas such as game genre and playing partners.

Theoretically, these findings reinforce the assertion that gamer identity operates as a socio-cognitive lens through which individuals -whether educators or learners- interpret digital environments and regulate behavior accordingly. As Sun et al. [25] point out, identity goes beyond behavioral patterns and reflects subjective psychological engagement. In alignment with Tajfel's [33] Social Identity Theory, individuals with stronger gamer identities exhibit greater empathy and tolerance toward in-group behaviors such as digital game participation, which in turn influences their willingness to integrate game-based activities into classrooms. This suggests that gamer identity may not only influence personal gaming behavior but may also mediate attitudes toward educational game value, particularly in shaping behavioral intentions to support or reject game-based learning. When participants' views on the concepts examined in the study are evaluated based on their demographic characteristics, a significant difference is observed only in relation to whether they engage with gaming for leisure or professional purposes. In terms of gaming identity, professional esports players have a higher average compared to recreational gamers. This finding aligns with the results of Yim et al. [38].

In conclusion, gamer identity enhances individuals' capacity for self-expression and social bonding in the digital world, thereby strengthening their behavioral intentions and the educational potential of esports. Educators and game developers can optimize game designs by considering these elements to increase the educational value of games. Specifically, personalizing game experiences and fostering social interactions can positively influence both educational and behavioral outcomes.

4.2. Practical Implications

The practical relevance of the study's findings extends into several applied domains, including educational design, game development, and youth engagement strategies. Firstly, as highlighted by Ye et al. [40], the development of educational value scales tailored for esports (e.g., 5 Cs) can inform how learning outcomes are assessed in game-based environments. Educational institutions can integrate esports tournaments or simulation-based training modules into curricula to develop 21st-century skills, particularly those related to problem-solving and teamwork.

Furthermore, Yim et al. [38] emphasize the importance of gamer identity in promoting sustained engagement. Game developers can benefit from these findings by creating systems that reinforce identity through avatars, social recognition, and player feedback. By doing so, behavioral intentions toward sustained play—and potentially learning can be increased. In addition, the empirical validation of relationships between educational value components and behavioral intention supports the design of adaptive learning platforms. For instance, esports games that provide performance feedback [40] and encourage reflective thinking can be repurposed for use in formal education settings, such as digital citizenship or leadership development programs.

Policymakers and youth program designers might consider esports not merely as recreational platforms but as tools to foster inclusive digital participation, especially when activities are structured around identity-building and socio-emotional development. Meaningful relationships between gamer identity, behavioral intentions, and the educational value of esports games offer practical recommendations that can be applied across various fields. These recommendations can be assessed in terms of enhancing education, game design, and their societal impact.

Esports games should be designed to help students acquire skills such as problem-solving, strategic thinking, and teamwork. Educational institutions can integrate esports into their curricula by considering gamer identity and behavioral intentions to increase students' engagement with games. For instance, avatar customization and story-based missions can encourage gamer to express themselves better and connect with academic content [51]. Game developers should optimize in-game mechanics to positively shape gamer identity and behavioral intentions. Integrating features that enhance feelings of achievement and social interaction can generate both educational and commercial value. For example, games that require gamers to collaborate with others or develop leadership skills can be both educational and motivating [53].

Behavioral intentions should be seen as a critical factor for ensuring sustainable user engagement in games. Game designs incorporating flow-inducing tasks and positive reinforcement mechanisms can strengthen gamer attachment to games. Features such as reward systems, achievement badges, or clear objectives between levels can motivate gamers in the long term [54]. The social bonding potential of esports can be harnessed to enhance cooperation and communication skills among young individuals. Esports activities integrated into educational programs can support both individual and group learning processes. Additionally, fostering interactions across cultures can position esports games as a learning tool in international contexts [54].

Gamer data and behavioral analytics offer game designers the opportunity to create educational games tailored to gamer preferences. This approach can be particularly effective in promoting personalized learning experiences. For example, analyzing gamers' in-game preferences can facilitate the development of content aligned with their interests [55]. Practically, the study underscores the importance of teacher training programs that explicitly address identity development alongside technical competency. Teachers who identify as gamers are more likely to perceive the educational value of digital games positively, show openness to different genres (even controversial ones like FPS or MMORPGs), and implement less restrictive disciplinary practices [25]. Therefore, cultivating reflective practices around digital self-concept in teacher education may enhance future instructors' engagement with digital pedagogy.

Furthermore, the findings support the integration of game-literacy frameworks in educational systems. For instance, understanding how game mechanics, genres, and social interactions influence both identity and learning outcomes can assist educators in selecting appropriate digital games aligned with curricular goals. Sun et al. [25] caution that simply having gaming experience does not equate to identity formation. Hence, educational stakeholders must also focus on affective alignment with digital media to fully leverage the pedagogical potential of digital games.

In conclusion, the meaningful relationships between gamer identity, behavioral intentions, and the educational value of esports games support innovative approaches in education and strategic planning in the gaming industry. Integrating these elements not only enhances individual learning processes but also provides broader societal benefits.

5. Conclusion

This study examined the relationships between undergraduate students' gamer identities, behavioral intentions toward digital gaming, and their perceptions of the educational value of esports games. The findings revealed that these three constructs are significantly and positively correlated. Participants' experiences with digital games extend beyond entertainment, encompassing identity formation, social interaction, and educational gains. The results align with the theoretical underpinnings of Social Identity Theory and the Theory of Planned Behavior, which were used as the conceptual framework for this study. The positive associations observed between gamer identity and behavioral intention support the proposition of Social Identity Theory [33] which posits that individuals' identification with a social group -such as being a gamer- can significantly shape their attitudes and behaviors. The finding that professional gamers exhibited stronger identification, behavioral commitment, and perceived educational value than recreational gamers further supports this theory.

Similarly, the significant correlations between participants' behavioral intentions and their attitudes toward the educational value of esports games are consistent with the Theory of Planned Behavior [34]. This theory emphasizes the roles of attitudes, social norms, and perceived behavioral control in shaping behavioral intentions. In this context, positive attitudes toward the cognitive and social benefits of esports appear to enhance participants' motivation to engage with such games. In particular, strong associations between gamer identity and educational outcomes such as critical thinking, self-confidence, and a

continuous improvement mindset underscore the developmental potential of digital games. These findings suggest that identification with the gamer role not only facilitates deeper engagement but also contributes to the perceived usefulness and value of gaming for personal development.

In conclusion, digital games -and especially esports- serve as multifaceted environments where individuals express their identities, build social connections, and develop various cognitive and emotional skills. The theoretical alignment between the study's findings and its conceptual foundations affirms that both gamer identity and behavioral intention are key constructs for understanding how digital games function as educational platforms. Accordingly, game designers and educators are encouraged to consider these dimensions when developing game-based learning environments. The study thus offers valuable contributions to the fields of gaming research, educational technology, and behavioral science.

5.1. Limitations and Future Research

This study provides significant findings regarding gamer identity, behavioral intentions toward gaming, and the educational value of esports games. However, several limitations and recommendations for future research are outlined below. The primary limitation of this study lies in the sampling method, as the participants were selected using the convenience sampling technique and consisted solely of undergraduate students. This restricts the generalizability of the findings to broader populations. Furthermore, the quantitative research design employed in this study limits the depth of understanding regarding participants' personal experiences and perspectives. Incorporating qualitative methods, such as interviews or focus group discussions, in future studies could provide richer insights into gamer identity and behavioral intentions.

Another limitation concerns the cultural context of the research. The study was conducted with participants from a specific cultural background in terms of language. Given that attitudes and intentions toward digital games may vary across different cultures, cross-cultural studies are necessary to validate and expand the findings. Additionally, the rapid evolution of gaming technologies presents a time-related limitation, as behavioral intentions toward digital games may change over time. Longitudinal studies could address this issue by examining these variables over extended periods. For future research, it is recommended to include diverse demographic groups from various age ranges, educational levels, and cultural backgrounds to enhance the generalizability of the results. Combining qualitative and quantitative methods would also enable a more comprehensive understanding of the topic, while longitudinal studies could shed light on the changes in behavioral intentions over time. Further research could investigate additional variables, such as gender, preferred game types, and playing duration, to better understand their effects on digital gamer identity and intentions.

Moreover, pilot studies in educational settings could examine the practical applications of esports games in learning environments, enabling direct observation of their contributions to the learning process. Comparative studies across cultures could also provide insights into how digital gamer identity and behavioral intentions are shaped within different cultural contexts.

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Conflict of interest

No conflict of interest is declared by tehe authors. In addition, no financial support was received.

Ethics approval

The study protocol was approved by the Research Ethics Committee of the Social and Human Sciences of Osmaniye Korkut Ata University (Ethics Committee Approval: 9.4.2025/E.226064).

Author contributions

Study Design, OK; Data Collection, OK; Statistical Analysis, OK; Data Interpretation, OK; Manuscript Preparation, OK; Literature Search, OK. All authors have read and agreed to the published version of the manuscript.

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