Article

Playing and Socializing—Adults' Perceptions of the FIFA Digital Game

Alessandro Pinheiro *, Abílio Oliveira and Bráulio Alturas *

Instituto Universitário de Lisboa (ISCTE-IUL), ISTAR, 1649-026 Lisboa, Portugal
* Correspondence: alessandro.pinheiro@iscte-iul.pt (A.P.); braulio.alturas@iscte-iul.pt (B.A.)

Abstract: Gamers' perceptions of using competitive digital games, especially concerning anxiety and socialization, have raised doubts about the benefits of playing such games. Since different studies highlight different results, this research aims to explore these differences by analyzing the perceptions of adults involved in playing a competitive digital game, in this case, FIFA, considering data that were collected during the COVID-19 pandemic period. The main question is 'How do adults perceive anxiety, stress, and socialization when playing the FIFA digital game?'. The research comprises two studies involving volunteer participants: In the first part, which adopts a qualitative approach, the participants' perceptions of what they think and feel when playing FIFA were analyzed and interpreted using text mining analysis. In the second, a quantitative study, FIFA users' perceptions of the gaming experience were statistically analyzed. The results show that adult users tend to refer to positive perceived stress and socialization. The fact that participants identified manipulations and interference in the game and no longer allowed its use to influence their mood reveals that perceptions of attacks of rage were considered possible reactions to the use of the game, interpreted from the interface, and leading to the creation of knowledge.

Keywords: stress; digital games; FIFA; socialization; COVID-19

1. Introduction

Several authors associate the use of digital games by people who are more vulnerable and susceptible to addiction with the onset of feelings of anxiety, depression, and antisocial behavior [1,2]. The perceived anxiety and stress in the face of the uncertainties resulting from the COVID-19 pandemic contributed to an increase in cases of depression [3–5], yet during the same period, the use of digital games helped minimize the negative effects on health, with people mainly seeking them out to socialize and have fun [6]. Studies suggest that socialization is an important factor in cooperation and game learning, essentially due to the exchange of experience [7,8], although the use of these games can somehow generate feelings of anxiety [9].

This research is contextualized in the face of an apparent paradox regarding feelings of anxiety, perceived stress, social isolation (derived from social distancing), and the use of digital games for recreational and social purposes during the pandemic.

A digital game is any type of game developed and programmed to be used through systems based on software and hardware which are capable of providing sound and digital images, i.e., any game that has evolved from electronic games by incorporating new technologies [10–13]. However, there is no consensus on the most appropriate name for the current games that are used both on consoles (Microsoft's Xbox—Redmond, United States and Sony's PlayStation—San Mateo, United States, for example) and computers, which are still known as electronic games [14].

The use of digital games, especially online, has brought people from all over the world together for different reasons, namely the desire to talk, collaborate and exercise power, or simply the desire to compete [15,16]. It is suggested that the use of these games increased

considerably during the pandemic period and had a positive impact on perceived well-being, specifically concerning cognitive stimulation and sociocultural influences among players [17].

Competitive digital games can be played online, allowing for interaction through the transmission of voice data between players (e.g., FIFA and CALL of DUTY on Xbox Series, Play Station 5 consoles, and on computers). In the heat of the game, some players become overexcited and are rude or offensive to their opponents [18–20].

This research comprises two studies on the opinions of adult FIFA gamers associated with the anxiety or stress they perceive while playing, and perceived socialization. Hence, the research question may be framed as:

How do adults perceive anxiety, stress, and socialization when playing the FIFA digital game?

To answer this question and considering a sample of adult FIFA game players, our attention was focused on two main objectives: (1) Determining their perceptions of anxiety and stress, while playing and about the game itself; (2) Determining how the gaming experience promoted (online) socialization (especially during the COVID-19 pandemic).

The choice of the pandemic period was opportune and relevant because of the increased anxiety and stress [21]. To achieve the objectives, following a literature review, a questionnaire was developed (see Supplementary Materials) which was organized into two main parts: one with several open questions to identify FIFA users' perceptions during the use of this game, and a second section with an additional set of closed questions (associated with Likert scales, evaluated by scores ranging from 1 to 5) to capture user perceptions of the game itself, but also certain social aspects associated with the (online) use of this game, thus relating the gaming experience to (online) socialization.

The methods used to achieve the proposed objectives were based on two studies: one of a qualitative nature, in which lexicometry was used and which allowed the textual analysis of the participant's responses (through the use of the Iramuteq software—Laboratory of Studies and Applied Research in Social Sciences, University of Toulouse, France); and another of a quantitative nature whose data were analyzed using the SPSS software. The results suggest that the use of FIFA in the online mode is chosen because it allows more significant competitive interaction between players. The use in the offline mode favors collaborative and friendly interactive practices between players. Playing online promotes the interaction between users in any part of the world, while playing offline offers more than a virtual socialization, because it favors the interaction between close persons, namely with family members or friends.

2. Background (Digital Games, Stress, Socialization, and COVID-19)

Some studies have pointed out the harm arising from the use of digital games and especially from the use of their predecessors (the various electronic games played without digital resources), comparing them to addiction and a cause of procrastination. This damage is usually associated with negative emotions or feelings of anxiety, violent behavior, and social isolation, referring, for example, to a distancing from or loss of contact with colleagues or even family members with whom the players live [1,2]. However, what is still not understood concerns the perceived stress when using games and the consequent user perceptions, even on a social level. Studies that associate stress with the use of digital games cite relaxation, fun, and escapism as positive alternatives to neutralize stress experienced for different reasons not resulting from the use of these games [15,22,23].

Stress can be interpreted as an attitude manifested in response to any stimulus capable of causing some kind of tension on a physical, emotional, or psychological level, which may vary from person to person, depending on context. A high level of stress can lead people to manifest behavior associated with the fight or inertia posture. Characteristics presented by people under the influence of stress include fear, worry, an inability to relax, increased heart rate, and difficulty concentrating, which may, in some cases, lead to physical or mental illness [24].

As a consequence of the COVID-19 pandemic, the subject of stress is very much in evidence and has caught the attention of public health authorities due to the high levels of stress experienced by people all over the world, which have triggered increasing levels of anxiety (and even depression) in a large population [25]. During the pandemic, digital games were used for fun and to socialize, bringing people together and contributing positively to a feeling of well-being [26,27]. Due to the existence of a paradox concerning the use of digital games in the pandemic period, namely whether digital games contributed to increased anxiety and social isolation (or if they contributed to the opposite), this research considered the perceptions of users of the FIFA digital game.

Concerning socialization through digital games, we know that players prefer to play against other human opponents, as they consider it more fun and friendly, mainly when the dispute occurs in co-location (online), so that signs of aggression (verbal and non-verbal) can be attenuated and perceived as friendly play [28].

In a specific way, socialization through digital games between people of different generations, between grandparents and grandchildren, for example, competition is an unnecessary game attribute, which gives rise to collaboration between players [29].

From a broader perspective, social perception takes place amid the process of socialization of people, which according to Abrantes [30], inspired by Elias and Bourdieu, is defined "as the process of constitution of individuals and societies through interactions, activities and social practices, regulated by emotions, power relations and identity-biographical projects, in a dialectic between biological organisms and sociocultural contexts" (p. 121).

The concept of social perception is closely associated with the process of interpreting other people's behavior, which occurs in stages. As a first step, our senses must be affected by another person's behavior. In the second stage, and from the moment our senses are affected by the behavior of another person, our interests are manifested, which must harmonize with our "prejudices, stereotypes, values and attitudes" [31].

In terms of social interaction during the game, we consider social exchanges capable of influencing behavior that is justified by affinities and the need to live with other people [32–34]. In social interaction during the use of online games, especially those of a competitive nature, disruptive behavior has been identified, characterized by the use of offensive language, provocation, and aggressive forms of communication [18–20].

The feelings and perceived emotions associated with the use of digital games include immersion, which is an important attribute considered in scales that seek to measure the perceived satisfaction with a particular game, involving an understanding of the dynamics and features of the game (engagement), the overcoming of game obstacles (engrossment), and the feeling of "already being part of a game" (total immersion), experiencing the anxiety and stress of an online game against, or in collaboration with, another player [35–38].

The types of digital games and other aspects related to use, such as age and game purpose (for example) can generate a specific meaning for socialization through digital games. For the present investigation, our starting point to understand the perception of socialization through the FIFA game is the act of playing against a human opponent.

In the following section, some of the features of the FIFA digital game will be presented.

3. The FIFA Digital Game

FIFA is a football simulator developed by Electronic Arts Inc., better known by the acronym EA, a company that has more than three hundred million registered users in the world. It is an online gaming provider that recorded a profit of \$1.93 billion in 2021. According to EA, its value and recognition in the digital games market currently reflect its portfolio of recognized brands (e.g., The Sims, Madden FFL, EA SPORTS FIFA, Battlefield, Need for Speed, Dragon Age, and Plants vs. Zombies) and improved relationship with users, citing its concern to update games and provide live content. EA games are compatible with various digital devices, such as PlayStation, Xbox, Nintendo Switch, and PCs [39], and of the twelve modalities available in the FIFA 20 edition, FIFA Ultimate Team, which allows the user to assemble their team and compete online with other players, is the most popular,

according to EA. By purchasing packs, users acquire game resources, such as valuable players, thus increasing their chances of success against other competitors [40].

To acquire FIFA game resources, specific amounts of currency are required, namely FIFA Points. The small amounts provided by the game itself are insufficient for the acquisition of special avatars (e.g., CR7 or Messi), and the user is therefore recommended to purchase these coins through cash transactions (the use of credit cards is mentioned). This method was questioned by some legal systems and in October 2020 it led to a fine of 250,000 euros for EA, imposed by the Dutch court, which compared the system of packs (the purchase of game resources) to gambling. This interpretation was also upheld by the courts in Belgium [41].

In another case, immersion in the game (FIFA Ultimate Team online competition) and the desire to win led to fits of rage in a Spanish Pro Player, who, overcome by his emotions, broke his wireless controller after losing an online match [42]. Although the level of immersion influences the perceived emotion during matches and is especially related to perceived stress in online matches, some FIFA users have also mentioned programming manipulations in online matches and opt for offline matches. They consider the game an excellent tool for socializing and having fun with friends, both in person and offline. They frame FIFA in the "pay to win" strategy, without any associations with merit, skill, or knowledge [43].

In digital games, knowledge and skills are acquired through user interaction with these types of games, possibly in a very similar way to the knowledge construction process proposed by Piaget, who considers that human intelligence is dependent on the environment and needs it to develop. He adds that intelligence is also a product of knowledge acquired through interaction between the subject, i.e., the organism, and the object, i.e., the environment [44], since "all intelligence is an adaptation" [45] and learning is a non-spontaneous factor (for example, due to a situation external to the subject) limited to a single problem and a consequence of developing possibilities for the solution of this problem, thus arriving at knowledge [46]. The adaptation of intelligence and the non-spontaneity of learning was observed during the period of confinement and social restrictions experienced during the COVID-19 pandemic, when digital technologies were forced to replace various face-to-face activities, namely those linked to the process of teaching and learning and related to preventive medicine [47,48].

The human cognitive system configures a continuum of mental schemes which can be explained by four factors: maturation, experience, social transmission, and balance [46]. Piaget sought to understand, in epistemological terms, how knowledge is constructed, especially in children, and his model served as an inspiration for the development of pedagogical proposals, namely methodological guidelines for teaching and learning processes [44]. He suggested that from adolescence onwards the human cognitive system, what he calls formal operative intelligence, is no longer dependent on observable objects or realities, and other hypotheses, reflections, and theories are therefore considered, requiring further analysis and understanding to achieve knowledge-related outcomes [49].

We do not intend to measure the intelligence of FIFA users, only to interpret and give meaning to their perceptions, as participants in these studies, by considering what they think or feel about the game itself and their experience of playing it (with other gamers).

4. Methods

4.1. Data Collection—Questionnaire

To answer the research question and fulfill the proposed objectives, a questionnaire containing both open questions (six items) and closed questions (eight items) with Likert scales (see Supplementary—File S1) was developed, based on the background and previous studies. It was made available from November to December 2021 on the Google Forms platform and disseminated via Facebook, specifically among FIFA communities (e.g., FIFA Ultimate team-br, FIFA 21 Portugal, FIFA trade). The questionnaire also contained some demographic items required to characterize the participants in terms of gender,

physical limitations, age, and level of education. The original questionnaire was written in Portuguese (see Supplementary—File S2), and only after adequate data treatment and analysis, using the indicated software, translated into English language. The translation had no impact on the studies carried out.

All the participants were informed that: (1) the general objective of the questionnaire was to investigate FIFA game players' perceptions of the game and their experience of playing it; (2) the questionnaire was only addressed to adults who play the FIFA game (online or offline) and could therefore only be answered by people who were at least eighteen years old; (3) their participation was voluntary and anonymous; (4) if they agreed to participate, their data would only be used in this research and nowhere else; (5) they could suspend their participation at any moment, simply by abandoning the questionnaire.

In sum, the intention was not to analyze or measure any behaviors, only to verify and interpret the users' perceptions, i.e., their opinions on what they feel or think about the game. The users who participated in the study were all adults who had freely agreed to these terms and had given their informed consent (see Files S1 and S2) by ticking the option to proceed to the questionnaire. For these reasons, there was no need to consult an ethical committee.

4.2. Participants

The sample contained 129 participants (N = 129) aged between 18 and 53 years old–all FIFA game users who had agreed to participate anonymously and voluntarily. The sample consisted of adults with an average age of 24 who were all male apart from one participant (female). The sample varied in terms of professional occupation and level of education, with the latter ranging from the twelfth (final) year of school to the Ph.D. level.

4.3. Procedure

The six questions with open answers for Study 1 (Q5 to Q10) were applied to operationalize objective (1) to determine FIFA game users' perceptions of anxiety and stress–while playing and concerning the game itself. The question 5 (Q5) was applied with the intention of generating three or more groups of participants, for later comparison, based on the various editions of FIFA used by the players; Q6 aimed to generate two texts about the players' opinion, one about the game in online mode and the other about the game in offline mode; Q7 to Q10 we sought the players' opinion about the game itself, concerning anxiety and stress, while using FIFA.

The data obtained from the open answers (Q7 to Q10) were analyzed using Iramuteq 0.7 alpha 2 textual mining software. The closed questions for Study 2, complementing the data obtained from Study 1, were used to achieve an objective (2) to determine how the gaming experience promoted (online) socialization (especially during the COVID-19 pandemic). The quantitative data were analyzed using IBM SPSS v. 28 statistical software.

5. Results

5.1. Study 1—Operationalization of Objective 1

The qualitative (or textual) data obtained for Study 1, from the answers to questions Q6 to Q10 in the questionnaire, was analyzed by the content or textual analysis (a specific type of data mining). However, all the open answers were properly treated according to the necessary requirements for the use of the software used, and were grouped by type of question, which resulted in a corpus of six texts for a fully comprehensive analysis (supported by lexicometry). The analysis was carried out by considering the data (words or simple phrases considered as sets of words) as text segments (TS) or text fragments from the full corpus which contains the words systematically selected and analyzed by the Iramuteq software. Thus, the original words in Portuguese were selected according to their frequency in the text corpus (the more they were cited the more relevant they were considered), analyzed by Iramuteq, and presented, by class, in Supplementary Materials (Figure S1).

The TSs were analyzed using the Descending Hierarchical Classification (DHC), based on vocabularies and separated according to the frequency of reduced forms (i.e., all similar words, words with the same semantic meaning, or words that appear in both singular and plural forms were reduced to simple words). This analysis was carried out by cross-referencing (in matrices) the TS and words based on the Chi-square distribution (x^2), organized by classes in an illustrative DHC dendrogram for the contextualization and interpretation of each class [50]. The contents are presented in tables for each class of meaning, to consider the identification of the word (form), the grammatical class in which the word was identified in the software's dictionary of forms (type), the number of TSs that contain the word in the class (eff. s.t.), the number of TSs in the corpus that contains the cited word at least once (eff. Total), the percentage (%), the chi-square (x^2), and the level of significance of the association of the word with the class (α).

The full corpus was made up of six (06) texts created from the open answers and separated into forty-nine (49) text segments (TSs), involving the use of forty-three (43) TSs (87.76%). In this context, 1635 occurrences emerged, amounting to 266 words, 133 of which are words that occur only once (50% of the forms, 8.13% of the occurrences). The dendrogram (a classification using Reinert's method) illustrates the distribution of the forms (see Figure 1) and reveals seven classes originating from two branches (A and B) of the total corpus analyzed. Subcorpus A is composed of Class 2 (Perception of breaking something), and Class 3 (Perception of rage). Branch A, involving Classes 2 and 3, groups meanings around the perceptions that were reported when using the FIFA game.
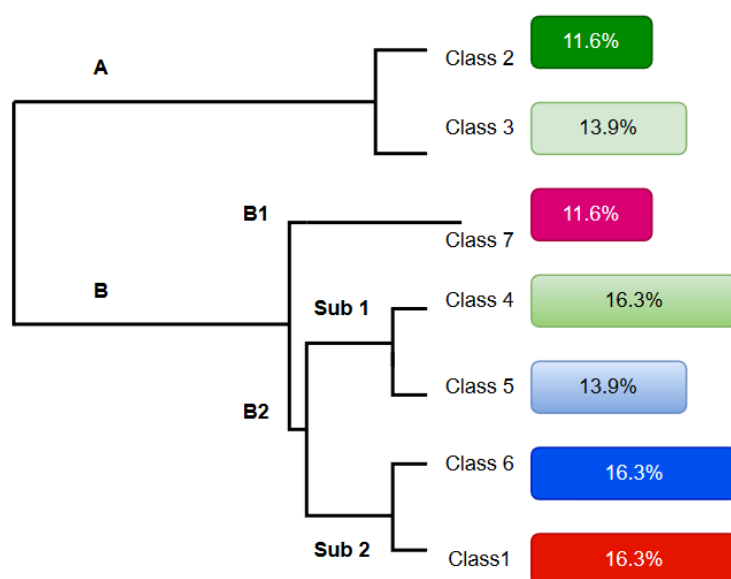
Figure 1. Grouping of classes by cluster meaning.

5.1.1. Class 2: Perception of Being Capable of Breaking Something

This class contains words that represent perceptions of impulsive behavior (Table 1) and comprises 11.63% (f = 5 TS) of the total corpus analyzed. It includes some perceptions related to the emotional impulses of users of the FIFA digital game, stimulated by adverse situations in the game: some participants reported the perception that they might break objects (e.g., the TV or game controls).

Man, 28 years: "I already broke a PlayStation controller and broke my cell phone."
Man, 32 years: "I already broke the TV remote.".

Table 1. More frequent words in class 2: Break something.

Form	Type	Eff. s.t.	Eff. Total	%	X^2	α
controller	noun	5	6	83.33	34.89	<0.0001
break	verb	5	7	71.43	29.10	<0.0001
already	adv	5	10	50.00	18.67	<0.0001
break something	none	5	5	100.00	43.00	<0.0001

5.1.2. Class 3: Perception of Rage

This class incorporates words that complement Class 2 and presuppose communication with people (Table 2), corresponding to 13.95% (f = 6 TS) of the total corpus analyzed. The participants reported a perception of aggressiveness directed towards family members, partners, or adversaries, referring to insults, arguments, and lashing out at the floor, walls, and objects. Examples of quotations:

Man, 36 years: "My wife already said she didn't want that kind of aggressive husband."
Man, 32 years: "I used to throw objects on the floor!"
Man, 26 years: "Once I threw some punches at the wall and hurt myself."
Woman, 22 years: "I've already lost my mind and been rude to my mother and opponents."

Table 2. More frequent words in class 3: Rage attack.

Form	Type	Eff. s.t.	Eff. Total	%	X^2	a
curse	verb	5	5	100.00	34.89	<0.0001
aggressive	adj	4	4	100.00	27.20	<0.0001
husband	noun	4	4	100.00	27.20	<0.0001
punch	noun	3	3	100.00	19.89	<0.0001
familiar	adj	3	3	100.00	19.89	<0.0001
discuss	verb	3	3	100.00	19.89	<0.0001
floor	noun	3	3	100.00	19.89	<0.0001
already	adv	5	10	50.00	14.10	0.0002
wall	noun	3	4	75.00	13.69	0.0002
adversary	adj	3	5	60.00	9.99	0.0016
object	noun	2	3	66.67	7.46	0.0063
rage attack	none	6	6	100.00	43.00	<0.0001

Sub corpus B has two branches (B1 and B2), with B1 presenting reports of feelings perceived when playing FIFA, represented by Class 7 (Feelings experienced), while B2 has two subdivisions (Sub 1 and 2). Subdivision 1 is composed of Classes 4 (Intention to play online), and 5 (Intention to play offline), and subdivision 2 by Classes 6 (Upsetting situations when playing), and 1 (accessibility and playability). Both subdivisions (1 and 2) include players' opinions.

5.1.3. Class 7: Feelings Experienced

This class contains groups of words that represent FIFA users' perceptions of unpleasant emotions and feelings when playing the game (Table 3), comprising 11.63% (f = 5 TS) of the total corpus analyzed. The perceived feelings are mainly anger, headaches, pain, and disorder. In general, the feelings are described by the perception of anxiety and stress. Some example quotations:

Man, 21 years: "I feel hate, a lot of anger and then a headache."
Man, 27 years: "I feel stress and bad mood, sometimes sadness."

Man, 45 years: "I already had an emotional disorder . . . my body was shaking."
Man, 38 years: "I already felt anxiety and pain in my stomach.".

Table 3. More frequent words in class 7: Experienced Feeling.

Form	Type	Eff. s.t.	Eff. Total	%	χ^2	a
anger	noun	4	4	100.00	35.52	<0.0001
disorder	noun	4	4	100.00	35.52	<0.0001
emotional	adj	4	4	100.00	35.52	<0.0001
pain	noun	4	4	100.00	35.52	<0.0001
head	noun	4	4	100.00	35.52	<0.0001
feel	verb	4	5	80.00	25.74	<0.0001
nervousness	noun	3	3	100.00	24.51	<0.0001
stress	noun	3	3	100.00	24.51	<0.0001
sensation	noun	3	4	75.00	17.24	<0.0001
feeling bad	none	5	5	100.00	43.00	<0.0001

5.1.4. Class 4: Intention to Play Online

This class contains words that justify the use of the game in online mode (Table 4) and comprises 16.28% (f = 7 TS) of the total corpus analyzed. It includes opinions on the online game, such as the perception that it allows for greater competitiveness and challenge, more exciting competitive interaction, and is more difficult to play.

Man. 23 years: "Large feelings of difficulty and excitement."
Man. 24 years: "Allows you to play with more interactivity and competitiveness."

Table 4. More frequent words in class 4: Meaning to play online.

Form	Type	Eff. s.t.	Eff. Total	%	χ^2	a
larger	adj	5	6	83.33	23.00	<0.0001
allow	verb	4	4	100.00	22.68	<0.0001
exciting	adj	4	4	100.00	22.68	<0.0001
more	adv	7	12	58.33	21.60	<0.0001
competitive	adj	5	7	71.43	18.66	<0.0001
difficulty	noun	4	5	80.00	16.86	<0.0001
interaction	noun	3	3	100.00	16.59	<0.0001
challenge	noun	3	3	100.00	16.59	<0.0001
competitiveness	noun	3	5	60.00	7.94	0.0048
play	verb	6	17	35.29	7.46	0.0063
online meaning	none	7	11	63.64	24.32	<0.0001

5.1.5. Class 5: Intention to Play Offline

This class includes words that justify using the game in offline mode in comparison to online mode (Table 5) and corresponds to 13.95% (f = 6 TS) of the total corpus analyzed. It includes players' opinions on the online and offline modes. including the perception that offline games are more fun and better for playing with friends. while the online mode is interpreted as stressful.

Man. 26 years: "I like to play with friends in person . . . it's fun!"
Man. 22 years: "It's less stressful and funnier when the players are in the same place."

Table 5. More frequent words in class 5: Meaning to play offline.

Form	Type	Eff. s.t.	Eff. Total	%	X^2	α
funny	adj	5	5	100.00	34.89	<0.0001
stressful	adj	3	3	100.00	19.89	<0.0001
like	noun	3	4	75.00	13.69	0.0002
friend	noun	3	4	75.00	13.69	0.0002
play	verb	6	17	35.29	10.66	0.0011
more	adj	5	12	41.67	10.65	0.0011
give	verb	3	6	50.00	7.55	0.0060
player	noun	2	4	50.00	4.77	0.0289
offline meaning	none	2	2	100.00	12.93	0.0003
online meaning	none	4	11	36.36	6.18	0.0129

5.1.6. Class 6—Upsetting Situations When Playing

This class consists of words representing FIFA users' opinions of the game itself (Table 6) and comprises 16.28% (f = 7 TS) of the total corpus analyzed. The participants' perceptions refer to the reasons for dissatisfaction when playing against an opponent. cited as failures in the programming of the game. the manipulation of games. and the positive influence on the program or the aid provided during the game for users who invest money to play.

Man. 19 years: "it is ridiculous to spend money to improve. and the game to manipulate and help the opponent."
Man. 20 years: "It sucks when the game failure or manipulates matches."

Table 6. More frequent words in class 6: Situations that upset when playing.

Form	Type	Eff. s.t.	Eff. Total	%	X^2	a
spend	verb	7	7	100.00	43.00	<0.0001
money	noun	7	7	100.00	43.00	<0.0001
aid	noun	5	5	100.00	29.10	<0.0001
manipulation	noun	7	14	50.00	17.32	<0.0001
game	noun	7	16	43.75	14.11	0.0008
failure	noun	6	13	46.15	12.20	0.0005
boring situation play	none	7	14	50.00	17.32	<0.0001

5.1.7. Class 1—Accessibility and Playability

This class contains words that express FIFA users' perceptions (or opinions) of the game programming and corroborates class 6 (Table 7). comprising 16.28% (f = 7 TS) of the total corpus analyzed. It focuses on the dynamics of the online game, considering reporting biased and manipulative programming that penalizes some players with failures and errors while benefiting others.

Man. 19 years: "The manipulation of game programming."
Man. 22 years: "Internet or game failure"

Table 7. More frequent words in class 1: Accessibility and playability.

Form	Type	Eff. s.t.	Eff. Total	%	χ^2	α
programming	noun	7	11	63.64	24.32	<0.0001
failure	noun	7	13	53.85	19.29	<0.0001
manipulation	noun	7	14	50.00	17.32	<0.0001
game	noun	7	16	43.75	14.11	0.0002
boring situation play	none	7	14	50.00	17.32	<0.0001

5.2. Study 2—Operationalization of Objectives 1 and 2

The data for this study were obtained from the answers provided by the participants to the closed five-point questions (Q11 to Q17 in the questionnaire) which were used to create the variables considered in the analyses (Table 8). Some of the variables are related to objective 1, thus allowing for a comparative analysis with the qualitative data in accordance with this objective. The participants' answers were analyzed with IBM SPSS Statistics 28 software.

Table 8. Variable labels according to questions Q11 to Q17.

Variables	Labels
V01	Self-criticism regarding the game and the resources available
V02	Game programming including accessibility. playability and manipulations
V03	I was already very nervous about this game but nowadays I no longer allow it to influence my emotions
V04	Amid the COVID-19 pandemic. FIFA helped me socialize online
V05	Amid the COVID-19 pandemic. FIFA worsened my mood
V06	Amid the COVID-19 pandemic. FIFA created social problems for me
V07	Amid the COVID-19 pandemic. it is recommended not to play FIFA

The majority (N = 91. 70% of the total sample) agreed that they had adequate knowledge of their skills and expertise. They consider themselves good players mainly when the programming allows for good interaction (Table 9).

Table 9. Self-criticism regarding the game and the resources available.

Points	V01	N	%
1	Strongly disagree	1	0.8
2	Partially disagree	17	13.2
3	Neither agree nor disagree	20	15.5
4	I agree	60	46.5
5	I fully agree	31	24.0

The majority (N = 104. 80% of the total sample) agreed on the influence of the game on matches played in online mode (Table 10).

To reach a better understanding of the self-criticism regarding the game and the available resources (V01) and the perceptions of the programming of games, including accessibility, playability, and manipulations (V02), the sample was divided into two groups: (a) few editions, comprising participants who had played 1–4 editions (or versions) of the FIFA game; and (b) many editions, consisting of participants who had tried five or more editions of FIFA game. The Student's *t*-test was then used to verify the existence of a significant difference between the averages for FIFA users' opinions and perceptions

of self-criticism concerning the game, the available resources, and game programming, including accessibility, playability, and manipulations (Table 11).

Table 10. Game programming including accessibility. playability and manipulations.

Points	V02	N	%
1	Strongly disagree	7	5.4
2	Partially disagree	5	3.9
3	Neither agree nor disagree	13	10.1
4	I agree	45	34.9
5	I fully agree	59	45.7

Table 11. Comparison (considering V01 and V02) between those who experienced few or many FIFA game editions.

	Use of FIFA Editions		N	%
	few editions		37	28.7
	many editions		92	71.3
	Use of FIFA Editions		**N**	**Mean**
V01	few editions		37	3.89
	many editions		92	3.76
V02	few editions		37	4.41
	many editions		92	4.00
			t	Sig. (2-tailed)
V01	Equal variances assumed		0.686	0.494
V02			1.923	0.057

There was no statistically significant difference between the opinions of players who had tried only a few editions and the users who had tried many editions, although some results indicate an important tendency. All participants claimed that they had some knowledge of their skills and expertise when playing a match (t (127) = 0.686; p = 0.494) and that it was possible to perceive when they would lose or win a FIFA match, justifying this perception by the influence of the game programming (t (127) = 1.923; p = 0.057) (Table 11).

To analyze variables 03, 04, 05, 06, and 07, the sample was separated into two groups, namely those who had no perceptions of attacks of rage/fury under the influence of the game (no) and those who had perceptions of rage (yes). Textual analysis (Q9 and Q10 in Study 1) allowed for this separation, and it was used to verify the existence of a significant difference between the averages of opinions and perceptions.

An independent *t*-test (Table 12) showed no statistically significant difference between the users of the FIFA digital game who stated they had no thoughts of attacks of rage (no) and those who did have perceptions of this (yes). There is a tendency for both opinions to neither agree nor disagree about becoming stressed and no longer allowing this to influence their emotions: V03 (t (127) = 1.528; p = 0.129). Both groups also showed a tendency to consider that the FIFA digital game somehow contributed to online socialization: V04 (t (127) = 1.274; p = 0.205) (Table 12).

Table 12. Comparison (considering V03 and V04) between those who did not have a perception of fury attack (no) and those who had the perception of fury attack (yes).

	Perception of Fury	N	Mean
V03	no	62	3.13
	yes	67	2.79
V04	no	62	2.69
	yes	67	2.37
		t	Sig. (2-tailed)
V03	Equal variances assumed	1.528	0.129
		t	Sig. (2-tailed)
V04	Equal variances assumed	1.274	0.205

However, the independent *t*-test (Perceptions of rage) (Table 13) showed that the averages for the groups are different concerning mood changes when using the FIFA digital game during the pandemic. The group that reported perceptions of some type of attack of rage showed a tendency to express a neutral opinion, whereas the group that did not report such perceptions partially disagreed: V05 (t (127) = −3.670; $p < 0.001$). The two groups also differed in terms of whether the use of the FIFA digital game contributed to, or influenced the creation of social problems during the pandemic. However. this difference did not influence the general perception, since they all stated that the game was not responsible for any social problems during the period in question: V06 (t (127) = −2.260; $p = 0.013$ ($p < 0.050$)) (Table 13).

Table 13. Comparison (considering V05. V06 and V07) between those who did not have a perception of fury attack (no) and those who had the perception of fury attack (yes).

	Fury Attack	N	Mean
V05	no	62	2.02
	yes	67	2.85
V06	no	62	1.47
	yes	67	1.88
V07	no	62	1.81
	yes	67	2.58
		t	Sig. (2-tailed)
V05	Equal variances assumed	−3.670	<0.001
		t	Sig. (2-tailed)
V06	Equal variances assumed	−2.260	0.013
		t	Sig. (2-tailed)
V07	Equal variances assumed	−3.285	<0.001

The difference, on average, between the two groups was also measured concerning the recommendation not to use FIFA during a pandemic. This difference was not enough to change the perceptions of the two groups, which did not express any objection to the use of this game during the period in question: V07 (t (127) = −3.285; $p < 0.001$) (Table 13).

6. Discussion

6.1. Users' Perceptions (or Opinions) of the Game

The text analysis identified participants' perceptions that may be related to anxiety and stress, both while playing and in terms of the game itself. They revealed perceptions of

aggressiveness that could be represented as breaking objects and lashing out at furniture and walls. The perception of possible offensive comments directed at other people (e.g., family members) was also observed. These acts were justified by feelings of anxiety. anger. and stress due to adversities experienced during the game. This result agrees with some results from previous studies that consider aggressive reactions and feelings of anxiety associated with the use of digital games [1,2]. We also verified that certain thoughts or feelings expressed by the participants could be related not only to stress, anxiety. or being aggressive towards people, but even to possible urges to destroy things (such as the wireless controller).

Concerning the game itself, they somehow understand the game's programming by suggesting that matches are manipulated, and the game programming helps users who invest money in it. We also identified that participants consider it possible to know whether they have any chance of winning a match based on the influence of the game programming. Furthermore, not all participants who present self-criticism concerning the game and the available resources are capable of interpreting and explaining the game programming, thus corroborating the knowledge construction process proposed by Piaget [44,45].

6.2. How the Gaming Experience Promotes Socialization

Through text analysis, it was found that participants prefer the online game if they are aiming for competition and the challenge of playing against another person, but prefer the offline game when playing with friends in person, aiming for fun and to minimize the feeling of stress, thus confirming the results of a previous study [43]. Opinions about playing FIFA in the offline mode were associated with two words, "friend" and "funny," whose participants suggest more fun, lack of competitiveness, or lower incidence of this variable (since the frequencies of the words "competitive" and "competitiveness "do not appear in the set of words that reflect players' perception of playing FIFA offline). So, the meaning of playing FIFA in the offline mode, in this study, can be interpreted by carrying out social practices associated with ludic activities through a digital game, a prevailing friendship between human players located in a physical and commonplace [29,30].

The participants tended to be neutral about controlling the game's influence on their emotions (see Table 12) and the game's contribution to socialization during the pandemic, suggesting some importance of digital technologies during this period [47,48].

In this study, FIFA users who reported perceptions of attacks of rage revealed some indecision regarding the influence of the game on their mood (the participants neither agreed nor disagreed that the FIFA game had an adverse effect on the mood of players during the COVID-19 pandemic; see Table 13). In general, the game did not serve as a potential cause of social problems during the COVID-19 pandemic, and there was no objection to the use of FIFA during the period in question (see Table 13).

The results (from qualitative and quantitative studies) do not reveal any negative influence on FIFA users during the pandemic. There was also no mention of depression, anxiety, or increased stress in this period [24,25]. In addition, it was also found that the purpose of use beyond competition is socialization for recreational purposes when playing in person with friends [26,27].

7. Conclusions

This study addressed the research question by presenting results to verify how adults perceive anxiety, stress, and socialization when playing the FIFA digital game. The results highlighted the users' perceptions and opinions of the FIFA game, how they feel while gaming, and how the gaming experience promoted socialization among participants/gamers. The objectives were achieved utilizing two studies focusing on the opinions and perceptions of FIFA game users.

The participants did not mention technical terms related to game programming and expressed an understanding of the game based on the construction of knowledge via the interface with the game environment. The fact that participants identified manipulations and interference in the game and no longer allowed its use to influence their mood reveals

that perceptions of attacks of rage were, in some way, considered possible reactions to the use of the game, interpreted from the interface and leading to the creation of knowledge, thus corroborating Piaget's findings [44–46,49]. The knowledge acquired via the interface with the game somehow influences the control of anxiety and perceived stress, neutralizing potential problems for online and face-to-face socialization with people residing in the location where the game takes place, e.g., the user's family residence.

Socializing through FIFA's online mode is inspired by the interaction between opponents in co-location and both looking for competition and challenges. In this research. there was no mention of social isolation, contrary to what may be found in previous studies, and there was also no mention of aggressive behavior directed at opponents, suggesting that the aggressive reactions were reactions under the influence of perceived stress and as a result of immersion in the game, in the face of competition [2,28,38,43].

As a limitation, we could consider more specific or technical questions on the FIFA users' knowledge of the game programming. This may be a suggestion for future research, even bearing in mind the application of other types of games. Another relevant fact concerns feelings of stress, which suggest that perceptions of anger and anxiety are common among FIFA players who prefer to compete online, looking for challenges involving other players. Although every care to ensure translated words retain their meaning, some semantic loss may have escaped us. Moreover, as a limitation, it was not possible to use ANOVA for statistical analyses (because this analysis did not generate statistically significant results).

In general, for the participants, as FIFA gamers. the perceived stress is represented as a positive feeling. Hence, in future research, we suggest that perceived stress should be considered as a variable in the scales that measure perceived satisfaction with a digital game (e.g., Player Experience of Need Satisfaction and Game Experience Questionnaire). to resolve some imperfections in their structures [51], as well as the development of a similar investigation with other types of digital games.

As a contribution to the growing digital society, we suggest that game developers pay greater attention to important details for users with diagnosed pathologies, such as those suffering from epilepsy or hypertension. This advice not only provides guidance, but can also prevent unwanted reactions, especially in the case of vulnerable people [1,2]. In addition, we suggest developing a scale to measure optimal levels of perceived stress when playing games, as is the case with immersion and other variables considered in the scales that measure user satisfaction with digital games [37,38].

The relevance of this research is justified by its contribution to a digital society, particularly for users of digital games and the legal guardians of underage users. On an academic, scientific level, the research presents results concerning perceived stress during the use of a digital game and the players' representations of possible behaviors that could arise due to the influence of stress, which constitutes a new approach in studies on the influence of digital games on people's health.

For the digital games industry, this research highlights the importance of appropriate information for consumers of certain games regarding the potentially harmful risks and negative impact on people (since risk prevention for the most vulnerable reflects social responsibility and ethics).

References

1. Demetrovics, Z.; Urbán, R.; Nagygyörgy, K.; Farkas, J.; Griffiths, M.D.; Pápay, O.; Kökönyei, G.; Felvinczi, K.; Oláh, A. The Development of the Problematic Online Gaming Questionnaire (POGQ). *PLoS ONE* **2012**, *7*, e36417. [CrossRef] [PubMed]
2. Colder Carras, M.; Shi, J.; Hard, G.; Saldanha, I.J. Evaluating the Quality of Evidence for Gaming Disorder: A Summary of Systematic Reviews of Associations between Gaming Disorder and Depression or Anxiety. *PLoS ONE* **2020**, *15*, e0240032. [CrossRef] [PubMed]
3. Pfefferbaum, B.; North, C.S. Mental Health and the COVID-19 Pandemic. *N. Engl. J. Med.* **2020**, *383*, 510–512. [CrossRef] [PubMed]
4. WHO. WHO Highlights Urgent Need to Transform Mental Health and Mental Health Care. Available online: https://www.who.int/news/item/17-06-2022-who-highlights-urgent-need-to-transform-mental-health-and-mental-health-care (accessed on 6 July 2022).
5. Khan, M.A.S.; Debnath, S.; Islam, M.S.; Zaman, S.; Das Barshan, A.; Hossain, M.S.; Tabassum, T.; Rahman, M.; Hasan, M.J. Mental Health of Young People amidst COVID-19 Pandemic in Bangladesh. *Heliyon* **2021**, *7*, e07173. [CrossRef] [PubMed]
6. Marston, H.R.; Kowert, R. What Role Can Videogames Play in the COVID-19 Pandemic? *Emerald Open Res.* **2020**, *2*, 34. [CrossRef]
7. Raith, L.; Bignill, J.; Stavropoulos, V.; Millear, P.; Allen, A.; Stallman, H.M.; Mason, J.; De Regt, T.; Wood, A.; Kannis-Dymand, L. Massively Multiplayer Online Games and Well-Being: A Systematic Literature Review. *Front. Psychol.* **2021**, *12*, 2369. [CrossRef]
8. Spiliopoulos, L. Transfer of Conflict and Cooperation from Experienced Games to New Games: A Connectionist Model of Learning. *Front. Neurosci.* **2015**, *9*, 102. [CrossRef]
9. Chen, S.; Clark, C.C.T.; Ren, Z. Different Types of Screen-Based Sedentary Time and Anxiety in Adolescents: Video Games May Be More Important. *Front. Public Health* **2022**, *10*, 918234. [CrossRef]
10. Tekinbas, K.S.; Zimmerman, E. *Rules of Play: Game Design Fundamentals*; The MIT Press: London, UK, 2004; ISBN 0262240459.
11. Kirriemuir, J.; McFarlane, A. Literature Review in Games and Learning. 2004. Available online: https://telearn.archives-ouvertes.fr/hal-00190453/document (accessed on 26 July 2022).
12. Kerr, A. *The Business and Culture of Digital Games: Gamework and Gameplay*; Sage: London, UK, 2006; ISBN 1847877672.
13. Wolf, M.J.P. *The Video Game Explosion: A History from PONG to Playstation and Beyond*; Greenwood: Westport, CT, USA, 2008; ISBN 031333868X.
14. Elsayed, W. COVID-19 Pandemic and Its Impact on Increasing the Risks of Children's Addiction to Electronic Games from a Social Work Perspective. *Heliyon* **2021**, *7*, e08503. [CrossRef]
15. Yee, N. Motivations for Play in Online Games. *CyberPsychology Behav.* **2006**, *9*, 772–775. [CrossRef]
16. Williams, D.; Yee, N.; Caplan, S.E. Who Plays, How Much, and Why? Debunking the Stereotypical Gamer Profile. *J. Comput. Commun.* **2008**, *13*, 993–1018. [CrossRef]
17. Barr, M.; Copeland-Stewart, A. Playing Video Games during the COVID-19 Pandemic and Effects on Players' Well-Being. *Games Cult.* **2022**, *17*, 122–139. [CrossRef]
18. Kou, Y.; Gui, X.; Zhang, S.; Nardi, B. Managing Disruptive Behavior through Non-Hierarchical Governance: Crowdsourcing in League of Legends and Weibo. *Proc. ACM Hum.-Comput. Interact.* **2017**, *1*, 1–17. [CrossRef]
19. Hwang, J.; Lee, H.; Kim, K.; Zo, H.; Ciganek, A.P. Cyber Neutralisation and Flaming. *Behav. Inf. Technol.* **2016**, *35*, 210–224. [CrossRef]
20. Griffiths, M.D. Adolescent Trolling in Online Environments: A Brief Overview. *Educ. Health* **2014**, *32*, 85–87.
21. Cullen, W.; Gulati, G.; Kelly, B.D. Mental Health in the COVID-19 Pandemic. *QJM An Int. J. Med.* **2020**, *113*, 311–312. [CrossRef]
22. Reinecke, L. Games and Recovery: The Use of Video and Computer Games to Recuperate from Stress and Strain. *J. Media Psychol. Theor. Methods Appl.* **2009**, *21*, 126. [CrossRef]
23. Reinecke, L.; Klatt, J.; Krämer, N.C. Entertaining Media Use and the Satisfaction of Recovery Needs: Recovery Outcomes Associated with the Use of Interactive and Noninteractive Entertaining Media. *Media Psychol.* **2011**, *14*, 192–215. [CrossRef]
24. WHO Stress. Available online: https://www.who.int/news-room/questions-and-answers/item/stress (accessed on 6 July 2022).
25. WHO. Wake-Up Call to All Countries to Step Up Mental Health Services and Support. Available online: https://www.who.int/news/item/02-03-2022-covid-19-pandemic-triggers-25-increase-in-prevalence-of-anxiety-and-depression-worldwide (accessed on 6 July 2022).
26. Collins, E.; Cox, A.L. Switch on to Games: Can Digital Games Aid Post-Work Recovery? *Int. J. Hum. Comput. Stud.* **2014**, *72*, 654–662. [CrossRef]

27. Collins, E.; Cox, A.; Wilcock, C.; Sethu-Jones, G. Digital Games and Mindfulness Apps: Comparison of Effects on Post Work Recovery. *JMIR Ment. Health* **2019**, *6*, e12853. [CrossRef]

28. Gajadhar, B.; De Kort, Y.; IJsselsteijn, W. Influence of Social Setting on Player Experience of Digital Games. In Proceedings of the CHI'08 Extended Abstracts on Human Factors in Computing Systems, Florence, Italy, 5–10 April 2008; ACM: New York, NY, USA, 2008; pp. 3099–3104.

29. De la Hera, T.; Loos, E.; Simons, M.; Blom, J. Benefits and Factors Influencing the Design of Intergenerational Digital Games: A Systematic Literature Review. *Societies* **2017**, *7*, 18. [CrossRef]

30. Abrantes, P. Para uma teoria da socialização. *Sociologia: Revista Da Faculdade De Letras Da Universidade Do Porto, Vol. XXI*. 2017, pp. 121–139. Available online: https://ojs.letras.up.pt/index.php/Sociologia/article/view/2229 (accessed on 17 July 2002).

31. Rodrigues, A.; Assmar, E.M.L.; Jablonski, B. *Psicologia Social*; Petrópolis: Rio de Janeiro, Brazil, 2022; ISBN 6557136623.

32. Lea, S.E.G.; Webley, P.; Levine, R.M. The Economic Psychology of Consumer Debt. *J. Econ. Psychol.* **1993**, *14*, 85–119. [CrossRef]

33. Feldman, D.C. The Multiple Socialization of Organization Members. *Acad. Manag. Rev.* **1981**, *6*, 309–318. [CrossRef]

34. Grusec, J.E.; Hastings, P.D. *Handbook of Socialization: Theory and Research*; Guilford Publications: New York, NY, USA, 2014; ISBN 1462518346.

35. Murray, J.H. *Hamlet on the Holodeck, Updated Edition: The Future of Narrative in Cyberspace*; The MIT Press: London, UK, 2017; ISBN 0262533480.

36. Brown, E.; Cairns, P. A Grounded Investigation of Game Immersion. In Proceedings of the CHI'04 Extended Abstracts on Human Factors in Computing Systems, Vienna, Austria, 24–29 April 2004; ACM: New York, NY, USA, 2004; pp. 1297–1300.

37. Phan, M.H.; Keebler, J.R.; Chaparro, B.S. The Development and Validation of the Game User Experience Satisfaction Scale (GUESS). *Hum. Factors* **2016**, *58*, 1217–1247. [CrossRef] [PubMed]

38. Jennett, C.; Cox, A.L.; Cairns, P.; Dhoparee, S.; Epps, A.; Tijs, T.; Walton, A. Measuring and Defining the Experience of Immersion in Games. *Int. J. Hum. Comput. Stud.* **2008**, *66*, 641–661. [CrossRef]

39. Arts, E. Welcome to Electronic Arts. Available online: https://www.ea.com/about (accessed on 26 March 2020).

40. FIFPlay FIFA 20 Game Modes. Available online: https://www.fifplay.com/fifa-20-game-modes/ (accessed on 7 July 2020).

41. Gonçalves, A. FIFA 21 FUT Considerado "gambling" Na Holanda. Available online: https://pt.ign.com/fifa-21/92342/news/fifa-21-fut-considerado-gambling-na-holanda (accessed on 3 November 2020).

42. Fagarassi, V.H. FIFA 20: Pro Player Quebra Controle Após Derrota Na Weekend League. Available online: https://www.torcedores.com/noticias/2020/02/fifa-20-pro-player-quebra-controle-apos-derrota-na-weekend-league (accessed on 3 November 2020).

43. Pinheiro, A.; Alturas, B.; Oliveira, A. The Experience of the Digital Game Users and Reflections on the FIFA Ultimate Team. 2020. Available online: https://aisel.aisnet.org/capsi2020/15/ (accessed on 22 July 2022).

44. Ferracioli, L. Aspectos Da Construção Do Conhecimento e Da Aprendizagem Na Obra de Piaget. *Cad. Bras. Ensino Física* **1999**, *16*, 180–194.

45. Piaget, J.; Buey, F.J.F. *Psicología y Pedagogía*; Sarpe, 1983; ISBN 8472915751. Available online: https://guao.org/sites/default/files/biblioteca/Psicolog%C3%ADa%20y%20Pedagog%C3%ADa.pdf (accessed on 16 February 2021).

46. So, I. Cognitive Development in Children: Piaget Development and Learning. *J. Res. Sci. Teach.* **1964**, *2*, 176–186.

47. Torous, J.; Myrick, K.J.; Rauseo-Ricupero, N.; Firth, J. Digital Mental Health and COVID-19: Using Technology Today to Accelerate the Curve on Access and Quality Tomorrow. *JMIR Ment. Health* **2020**, *7*, e18848. [CrossRef]

48. Shenoy, V.; Mahendra, S.; Vijay, N. COVID 19 Lockdown Technology Adaption, Teaching, Learning, Students Engagement and Faculty Experience. *Mukt Shabd J.* **2020**, *9*, 698–702.

49. Piaget, J. Logique et Connaissance Scientifique. 1967. Available online: https://archive.org/details/logiqueetconnais0000unse_l6 (accessed on 8 January 2021).

50. Camargo, B.V.; Justo, A.M. Tutorial Para Uso Do Software de Análise Textual IRAMUTEQ. *Florianopolis-SC Univ. Fed. St. Catarina* **2013**, *1*, 1–18. Available online: https://d1wqtxts1xzle7.cloudfront.net/53221555/Tutorial_Iramuteq_2013_portugues-libre.pdf?1495393548=&response-content-disposition=inline%3B+filename%3DTutorial_para_uso_do_software_de_analise.pdf&Expires=1672163224&Signature=dVd0pD7khQnZytntAvZgOqPyuD~{}m9fCAzfIGsvWH9joLF3Uhckw~{}AjCYgyflsuJKGRbzBamTXujCorW7EK62~{}AR60SdbqgC55llCkWBdNYeb6mLipWa21q4~{}ycAmfJZH7gGAU3bkTBGiAREf~{}h2W4WZQzizDsnJIisrcSoilmECGaEmHspBHE0NdQcHalyD0rPjc5OVtoHdo9Nlaqf2IvwOLstAsNSyFjT8KBLDbjQk526PTyulnGdYp6irQw5PdBKCAxDTVNdAk1ZVsgPf8xaZ4mGRRpniGK2l2tIsBubyykLlqY72bLeFAP1MPR--Z-3rIAOwkXZz9QfIt9OluvQ__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA (accessed on 29 July 2022).

51. Johnson, D.; Gardner, M.J.; Perry, R. Validation of Two Game Experience Scales: The Player Experience of Need Satisfaction (PENS) and Game Experience Questionnaire (GEQ). *Int. J. Hum. Comput. Stud.* **2018**, *118*, 38–46. [CrossRef]