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What makes you watch it when you can play it?
The Evolution of Gaming Streaming and the Motivational Factors concerning
Viewership

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Master's in management

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Abstract

Gaming streaming has been increasing vastly throughout this decade, having a total of 1.9 billion hours of video on TwitchTv in August alone, reflecting a 27% year-over-year growth (Gamesindustry, 2021).

This dissertation's primary objective is to quantify the motivational relevance that a Portuguese viewer has concerning gaming streaming content in the online platform denominated TwitchTv, additionally addressing the evolution of streaming and gaming.

A questionnaire was created and shared on a multitude of social media platforms in order to gather data to analyze it via a dedicated software. An analysis was used in order to test the validity of the research hypothesis, being it One Sample Student's T-Test. With this research, the purpose was to identify which of the user needs posed a positive effect regarding the usage of TwitchTv. The main conclusions were that the affective need has a positive effect in TwitchTv usage, while there's no evidence to support other needs having a positive effect concerning TwitchTv usage.

Concerning future research, this dissertation addresses the interest of expanding the scope of research to not only TwitchTv as a streaming platform but to other online networks, due to the suitable approach of User and Gratifications theory.

Resumo

O streaming de jogos tem tido um aumento vasto ao longo desta década, tendo totalizado 1.9 mil milhões de horas de vídeo na TwitchTv apenas em Agosto, refletindo um aumento anual de 27% (Gamesindustry, 2021).

Esta dissertação tem como objetivo primário a quantificação da relevância motivacional que um espectador português tem no que diz respeito a conteúdo de streaming gaming na plataforma online denominada de TwitchTv, abordando adicionalmente a evolução de streaming e gaming.

Um questionário foi criado e partilhado numa variedade de plataformas online de social media a fim de reunir dados para analisá-los via um software dedicado. Uma análise foi utilizada de modo a testar a validade das hipóteses de pesquisa, sendo esta o Teste-t para uma amostra. Com esta pesquisa, o propósito é identificar qual das necessidades do utilizador propõe um efeito positivo de acordo com o uso da TwitchTv. As conclusões principais foram as de a necessidade afetiva tem um efeito positivo no uso da TwitchTv, enquanto não existe prova para suportar as outras necessidades de terem um efeito positivo em relação ao uso da TwitchTv.

No que se refere a pesquisas futuras, esta dissertação aborda o interesse de expandir o alcance da pesquisa para não apenas TwitchTv como uma plataforma de streaming, mas para outras redes online, devido à abordagem adequada da teoria do Utilizador e Gratificações.

Contents

1 Introduction

Streaming, also known as media flow or digital streaming, is something that exists for over a century now, however, it was not until mid-2005 that it had a burst related to video gaming. Video games started to be enjoyed as a viewing platform instead of being solely used to play. Football games started to be broadcasted worldwide as well as online gaming tournaments, with hundreds of thousands of viewers per game, opening doors to a whole new world and notion of online content.

The notion of streaming content isn't relatively new, although, when the gaming community started to absorb the notion of being able to view gaming content on a streaming platform, there was a boom of adherence to streaming platforms, making millions of viewing hits in the space of hours, opening doors to online engagement, development of viewer experience and online media perception.

This wave of online content affected the world, providing a new channel of information and entertainment for all to appreciate. In my perception, it developed a curiosity, why are millions of viewers engaged in a gaming stream whereas they could be playing said game? I intended to learn and understand what was behind this event.

Prior studies have been made concerning what motivates a viewer, however there is not much intel regarding motivation through gratification concerning Twitch viewership, specifically applied to Portugal.

Therefore, this dissertation is intended to portrait the evolution of streaming with the rise of gaming, and its implications regarding video gaming streaming and viewership as well as to qualify the motivational relevance that a viewer has concerning watching a stream. In other words, the purpose of this thesis is to study the needs that contribute to a viewer's engagement to streaming gaming content in Portugal, since there is very little information in Portugal regarding this matter.

This dissertation in regard is structured through a literature review, addressing key concepts such as the development and growth of gaming and streaming, as well as addressing the importance that streaming platforms had in the evolution of Esports. Furthermore, it was conducted an empiric research through to the usage of a survey, made in Google Forms and shared through social media platforms, with the intended purpose

of collecting viewer information regarding Twitch.tv, a streaming platform, which will be thoroughly described, as well as several key questions in order to provide additional info of the studied needs.

After the information from the survey was collected, 5 hypotheses were tested in order to understand if the needs had a positive effect on TwitchTv usage, in order to bring further insight onto what it is that motivate viewers into watching a game they could be playing, inserted in the context of Portugal, finalizing with a conclusion and future research advice.

Mainly, it is intended with this study to answer the question: What makes you watch a game and not play it? The answer should be easy: A viewer watches streams because he likes games. It's not so simple. In fact, there are viewers that choose to watch "streamable" content in order to improve their skills as a source of motivation or gratification, in this case, an individual chooses to absorb content in order to improve their skills playing the game itself. As it will be addressed, there are various elements that influence the motivation of viewership concerning streaming.

Although it is assumed that watching others play does not provide the same thrill of escapism as playing the game, watching may provide social gratifications that are, in a common matter, otherwise absent in a normal gaming experience.

Following the analysis, it was demonstrated that the research question H1 - "Affective need has a positive effect in TwitchTv usage" is supported and validated, giving meaning to the fact that the affective need does influence a Portuguese viewer into consuming gaming streaming content. Regarding H2 – "Cognitive need has a positive effect in TwitchTv usage", H3 – "Personal Integrative need has a positive effect in TwitchTv usage", H4 – "Social Integrative need has a positive effect in TwitchTv usage" and H5 – "Tension Release need has a positive effect in TwitchTv usage", these research hypotheses were not statistically supported and therefore rejected. Having this information in mind, it can be concluded that all needs have some influence on TwitchTv, being them neutral, negative or positive, but in the context of Portugal, the only motivational need that effects positively a viewer into consuming gaming streaming content is affective, described as an emotional or aesthetic experience.

2 Literature Review

2.1 The World of Entertainment

Entertainment is a fundamental cultural factor, according to Mckee in 2014 (cited in Collis, 2017), that brings pleasure in the leisure time to billions of people around the world (Blakley, 2001; cited in Todorovic, 2016). It is estimated that Americans only spend around 175 billion hours and spend 350 million dollars in different forms of entertainment each year. Globally, the numbers reach one trillion dollars (Vogel, 2015; cited in Vogel, 2020). Dyer, in 2009, noted that entertainment was a difficult term to define, owed to the fact that everyone knows what it is according to their personal ideas and values.

Additionally, he quoted "it is a common-sense idea". Therefore, the definition of entertainment differs depending on the person we are enquiring. For instance, within the industrial sector entertainment is defined by models taken from commercial business, whereas, in customers and critics entertainment relies on an esthetic system that evaluates stories, emotional engagement, sounds, speed, vulgarity or complexity. Furthermore, for the field of psychology, entertainment is taken as anything that an individual finds entertaining (McKee, 2014; cited in Collis, 2017).

Entertainment is recent and global, moreover it is, generally, related with paid activities. The types of entertainment with more worldly relevance are movies, videos, music, television, sports, and video games (Godoi, 2019). Alongside with the gaming industry, another form of online entertainment is expanding at a substantially fast pace. Watching a game's live streaming is becoming exponentially popular among the gaming community, owed to the fact that some players record themselves while playing, attracting a heterogeneous group of people composed of millions of individuals (Nascimento, 2014; cited in Chen & Lin, 2018).

2.2 Gaming as an Entertainment Tool

Throughout the past ten years video games became established as a form of entertainment, culture, and a similar part of individuals' daily lives worldwide (Mäyrä, Karvinen, & Ermi, 2016).

Video games are a very well-known form of contemporary entertainment, that obtain their interactivity with tasks and challenges that they present to the users. Games integrate a variety of tasks and challenges accompanied by difficulty levels, for instance tasks that require precise timing control, tasks that require logical thinking and problem solving, strategic planning and complexity (Vorderer & Bryant, 2006; cited in Clarke et al., 2017) The task solving and challenges are believed to be determinant factors for game enjoyment, as well as the motivation obtained by the feeling of competence when overcoming game tasks (Ryan et al., 2006; cited in Koivisto & Hamari, 2019). Psychologists researched about motivation throughout the years, concluding that human individuals respond extremely well to good performances with feelings of pride, joy, or other positive emotions (Weiner, 1985; cited in Scherer & Moors, 2019).

The reasons and motivations behind why people use videogames are expected to vary, however games are commonly seen as the same type of technology: games are fun, and *gamers* simply want to have fun (Yoon, Duff & Ryu, 2013; cited in Huang, 2018).

2.3 Streaming

Since 2011, it has been observed a remarkable development in popularity around the world on the topic of live streaming, an interactive form of internet-based multimedia entertainment (Twitch, 2017). Its growth has become so popular that, concerning some cases, there are more people viewing others doing activities, such as playing video games, than doing the said activity themselves (Kaytoue et al,. 2012; cited in Hamari et al,. 2018)

According to Ottelin, in 2015, streaming is one of the channels that makes it possible to broadcast gameplay in real time for everyone to see and comment, meaning it is a communication channel where you not only are engaged to a certain content as well as you can engage in conversation with elements that possess the same tastes in streaming

and gaming content. On another approach, Hamari & Sjoblom (2016) refer to streaming as the conveying of media content in a way that is simultaneously consumed by the receiver, as opposed to proceed to downloads of the media for later viewing, in this sphere, the content that's given to you is for instant absorption, it refers to the larger cultural phenomenon of streaming as a form of social live broadcasting on Twitch (Sjöblom, M., Törhönen, M., Hamari, J.,& Macey, J. 2019), being TwitchTV a platform where the gaming content is deployed on an everyday basis.

Given the fact that the TwitchTv was live with the purpose of streaming content in 2011, and by 2013 it had more than 45 million unique monthly viewers, with an average of 106 mutes of content assimilated per day (Karbun,2015), one might say that the penetration rate was beyond expectation, making this one of the biggest booms in technological media. In addition, it was stated by Emmet Shear, co-founder and CEO of Twitch, that the streaming platform is experiencing an increase of users by 13% month over month, which having the notion of mathematics in mind, is a good perspective future wise (Karbun, 2015; cited in Taylor, 2018).

As the streaming evolution was developing, having summed 9768.6 million hours watched in 2019 on Twitch, (Newzoo, 2019) so were the amount of information and content, making some viewers beginning to stop playing games in order to watch them. In fact, in a recent social study, casual players were found to prefer watching professional gamers rather than playing the game themselves (Kaytoue, 2012; cited in Sjöblom & Hamari, 2017).

2.4 Generations and Viewership concerning Streaming

One of the sociological and historical notions of generation is given as "an age cohort that comes to have social significance by virtue of constituting itself as a cultural identity", retrieved from a book entitled "Generations, Culture, and Society", written by Edmunds and Turner (2002) (cited in Attias-Donfut, 2017), bringing a deeper meaning to the date of birth of a set of individuals. The generations that are defined today (Figure 1) should be, primarily, taken as tools that allow analyses by age group (Dimock, 2019).
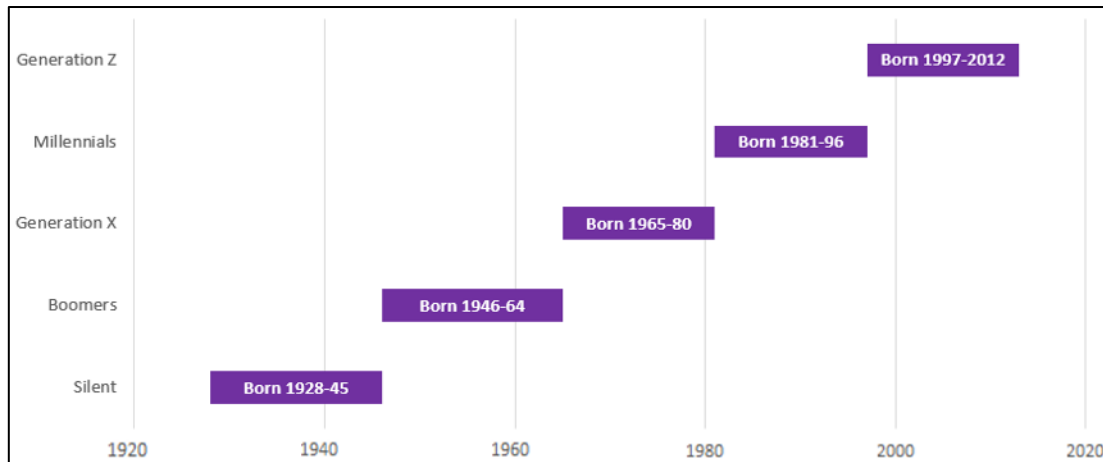
Figure 1.1: Definition of Generations

Source: Adapted from Dimock, 2019

Online live video streaming, also recognized as social TV, allows gamers to attract tens of thousands of unique viewers daily (Sjöblom & Hamari, 2017). Generation Z, also known as the iGeneration (iGen) and defined by individuals that were born prior to 2012, raise the need for research as they grow up surrounded by a technological environment (Dimock, 2019).

In the year of 2014, the industry of cable television suffered a huge downfall of customers that are canceling their traditional cable television and turning their full attention to Web based streaming as a form of television entertainment. The decrease in the number of cable television customers is still decreasing currently, and even at a faster pace. In 2015, 2.1 million customers gave up on their traditional cable television adding up to the 1.27 million that quit the service in 2014 (The Nielsen Company, 2016). According to the Nielsen company 40% of generation Z, 38% of Millennials and 30% of generation X were planning on giving up cable television and relying on web streaming content. More recently, it is estimated that 31% of Millennials and generation Z rely exclusively on web streaming content and that 24% of generation X subscribe to online content (Convergence Research Group, 2016; cited in Hou et al., 2019).

In 2017, a survey conducted by Deloitte Digital Media, shows that the behaviors of generations Z, millennials and generation X are meeting when the subject is streaming services, owed to the fact that 70% of Gen Z's households had subscribed to web streaming content, followed by Millennials (68%) and Gen X (64%). Additionally, it was

added that 50% of Gen X noted that they frequently played video games, matching closely to Gen Z's and Millennials' percentages (Deloitte 2017, cited in Westcott et al., 2018).

2.5 ESports

Esports, short for 'electronic sport' is referred as competitive video gaming "that is often coordinated by different leagues, ladders and tournaments, and where players customarily belong to team or other "sporting" organizations which are sponsored by various business organizations" (Hamari & Sjoblom, 2016). Later, Hamari and Sjoblom (2017) further defined Esports as an area of sporting activities with the purpose of people's development and the training of mental and physical abilities in the use of information and communication technologies. Esports is a new form of entertainment akin to the traditional notion of sports and is becoming increasingly prominent in the realm of video gaming, additionally all indications are that this 'New-Aged' form of entertainment will continue to increase in popularity and profit over the next several years, according to Pizzo, Funk & Baker (2018).

Esports is as a form of sports where the primary aspects of the sport are facilitated by electronic systems; the input of players and teams as well as the output of the Esports system are mediated by human-computer interfaces(Hamari & Sjoblom, 2016), implying that it is considered to be a sport, having in addition some academics considering that, in a wider perspective, the definition of the sport concept allows considering Esports as a sport (Wagner, 2006; Jonasson and Thiborg, 2010 cited in Griffiths et al., 2019).

Globally, the audience of Esports was 204 million in 2014, and in a matter of 5 years, it is expected to grow to 495 million people in 2020, 17% higher than the previous year (Newzoo,2016, 2017, 2018, 2020). In relation to branding, there is an investment of $694 million in the Esports industry, which accounts to 77% of the total market, expecting a growth to $1.4 billion by 2021, representing 84% of the total Esports revenue (NewZoo Global Esports Market Report, 2018). With this notable development and adherence of an audience, some corporations sensed a market opportunity, having them adhere to this movement as well. In 2020, Global Esports revenues are expected to grow to $1.1 billion, of which $822.4 million, being these 3 quarters of the total market revenue, obtained from

media rights and sponsorships (Newzoo, 2020). The revenue from sponsorship concerning Esports is, to the date, of $584,1 million, as shown in figure 2.
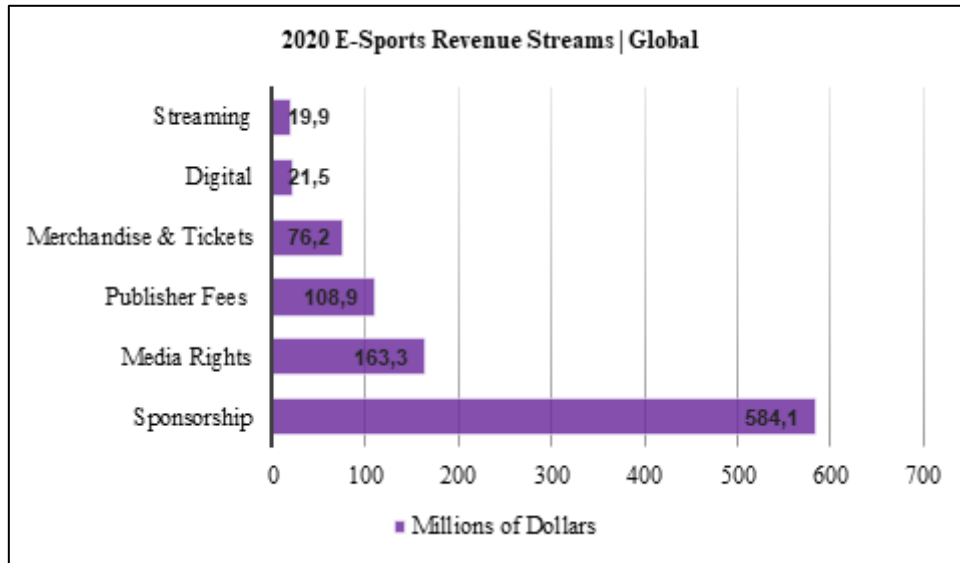
Figure 2: Revenue Stream of Esports (2020)

Source: Own elaboration

According to Kretschmann (2010; cited in Contreras-Espinosa, Eguia-Gómez & Solano Albajes, 2017) it is underlined the potential of Esports to contribute to a development of a players personal and social skills, even though it is merely treated as a potential, this outlook may offer a more complete, as well as a more complex perspective on Esports. As Wagner (2006; cited in Pizzo, Baker & Funk, 2018) defends, we need to approach Esports as a field of study which in return allows us to derive novel approaches and methodologies to actively advance other areas of interest that are not related directly to computer gaming, being one of those the motivational.

2.6 Esports contextualized in Portugal

Esports is an industry that is presented worldwide, standing as one of the few sectors that didn't took a major hit with the appearance of the pandemic (Francisco Rocha, 2020).

Due to the reported growth through key indicators that this notion has, it is estimated 700M viewing hits in 2023 on what comes to Esports competitions worldwide (FPDE, 2020), and Portugal contributes to this, showing the possibility to make professional

competitive gaming into a sector, having already acknowledged 20 athletes as 100% professional gamers (Diário de Notícias, 2020).

The gaming segment concerning Portugal, which contributes to the rise of Esports through the form of sports where play is facilitated by electronic systems, (Macey, J., & Hamari, J., 2018), is noticeably rising, having accounted a video game market share of 250M Euros in 2019 alone (Insider, 2019). There is also in motion the nurturement of competitive tourneys as well as initiatives with the purpose of promoting Esports in Portugal (FDPE, 2020), one of those being a Federation created solely to advance in the insertion and development of Esports- FPDE (Federação Portuguesa de Esports). One of the promotions that we can observe is the creation of the Arena Worten Ring, which had an adherence of more than 30 thousand engaging participants, having this content reached through social media streaming to more than 400 thousand viewers, as stated from Worten's Marketing Director (Insider, 2019).

When we transpose these numbers to the context of Portugal, it's a big slice of the population, where about 3M of Portuguese around the world has as their main hobby playing video games (Diário de Notícias, 2020), and having in mind, as stated above, that its growth is not diminishing, but quite the opposite, with a Million Euro investment from Worten just around the gaming segment (Insider, 2019).

2.7 TwitchTV

With the advent of *streamable* content concerning gaming, having its practice become popular in the mid-2010s (Wikipedia), there didn't exist a service that could transmit gaming content as Twitch, Mixer and Live YouTube.

TwitchTV, was initially introduced in June 2011 as a spin-off of the general interest streaming platform Justin Tv, as shown in Wikipedia. According to Gandolfi (2016), since its launch, TwitchTv has rapidly become one of the most important online entertainment video platforms, making able to thousands of thousands of viewers the ability to watch stream content with spaces for social interaction and debate.

Game streaming platforms such as NVIDIA's GeForce NOW, PlayStation Now, and Twitch.tv are becoming increasingly popular as the years go by (Zadtootaghaj et al, 2018). Twitch.tv is a platform that focuses strongly on the broadcast and view of video

game content. Its visibility and impact grew at such a rapid pace for the last several years, that Twitch.tv became a major force in the games industry and in the universal media ecosystem. For example, in 2016, the service counted with almost 300 billion total minutes watched and more than 2 million unique streamers (Twitch, 2016). The number increased going into 2017 with 350 billion minutes (Twitch, 2017).

Churchill and Xu (2016) express that this platform is "more than just an entertainment medium", as it hosts the home of the largest gaming community in history. Additionally, Gros and colleagues (2017) state that Twitch has evolved into an integral component of the viewers life as they are consistently watching content in a progressive way. The size of TwitchTv is seen as big enough to affect other dimensions of a game, going from its production to its reviewing, marketing and by extension other sections of the game industry (Johnson & Woodcock, 2018).

In order to provide additional market information related to Twitch, as of February 2020, Twitch had 3.8 million unique broadcasters, and the average of monthly broadcasters was of 3.64 million, over 2019 (Twitch Revenue and Usage Statistics, 2020). It can be stated that Esports have a high influence in this platform, due to the fact that in 2020, 91% of the viewership in Twitch was in relation to Esports (FPDE, 2020).

2.8 Importance of Streaming in Gaming and Viewership

Video games are also viewed as a form of entertainment enjoyed by numerous individuals on a diverse and universal consumer base. In the past gaming was mostly enjoyed by those who chose to engage in playing the game directly, but currently it became a spectator form of entertainment (Deng et al., 2015; cited in Spilker, 2020) leading researchers to turn their attention to online gaming (Gallagher & Park, 2002; cited in Kerr, 2017) making Twitch.tv an emerged hot topic, as it integrates the fields of gaming mixed with social networking (Kowert & Oldmeadow, 2014; Blackburn & Kwak, 2014; cited in Kumar, 2018).

Rocket League was a video game that came out in 2015 and was launched on Twitch. Despite being unusual as soccer is played with cars instead of human beings, the game became extremely popular on the platform. During the first month of the game being released, it was brought into the limelight at astonishing speed, as it went from the 165th

most watched to the top 5, consequently the download of the game also went up, resulting in over five million sales (Twitch 2015). What happened to this game in a period of one month only was, in fact, quite remarkable (George, 2015; cited in Johnson & Woodcock, 2019). Rocket League is a clear example of what direct marketing and broadcasting straight to game consumers can influence a game's success (Purcell, 2016; cited in Johnson & Woodcock, 2019).

The Game Industry is highly impacted by game live streaming whether as a form of game reviewing, as a boost to its visibility - independent games find unusual success, even older ones as they are broadcasted in new ways to new audiences, reshaping their notions and prolonging their visibility - or as a method of expanding the knowledge of game programming. This third case claims its importance, because the broadcast of game design and its development on Twitch.tv, holds enough potential to be a relevant new development for the game's industry. The growth of this platform results in a democratization of content creation and consumption, for that reason a deeper exploration of live streaming becomes crucial to understand where the game industry is in the present and where it is going in the future (Johnson & Woodcock, 2019). According to Forbes, thanks to the upgrowing live streaming of games and growing communities such as Twitch.tv, the game industry grew past 138 billion US dollars in 2018.

2.9 Impact of Streaming in Gaming and Viewership

According to Cambridge Dictionary, impact is defined as a powerful effect that something, mainly something new, has on a specific situation or individual.

Examining research into user-generated content (hereby characterized as UGC, which will be addressed in theory afterwards) and its impact on consumer attitudes and behavior can help to understand the effects that streaming has on consumers: their attitude, perception, and behaviors toward video games as a product, as well as streams constituting a type of user-generated content. Research into UGC includes consumer's perceived reliability on information presented by UGC, differences of consumer views when advertised by a brand rather than UGC, and the influence of popularity on consumer's perception of advertisements, according to Flanagin et al., 2014 (cited in Flanagin, 2017).

When assessing UGC such as streaming and how consumers consider such content, it is important to establish the general perceived credibility that such media may have. Flanagin et al., (2014; cited in Flanagin, 2017) conducted a study which examined group identification as a determining variable on whether consumers viewed UGC as credible, and their motivation to act on the information learned. The results of the study suggested that participants regarded information presented by others they identified with to be more credible, also leading them to be more likely to act on the information given. The findings of this study can be applied to video game streams in a way that suggests that audiences who play games may be more likely to perceive streamers to have an accurate portrayal of the video games being streamed if they identify with the streamer. Heinonen (2011; cited in Coelho, Rita & Santos, 2018) reached the same conclusion as Flanagin in that consumers value UGC as a reliable source of information, including information about products, experiences, and opinions. Results of the study brought to surface that as the influence of UGC increases, the influence of marketing communication decreases, meaning that video game streams are possibly a more effective form of marketing compared to traditional marketing developed for a specific video game by the brand.

There is a question, however, on how UGC performs as a way of influencing consumers compared to professionally generated content (PGC). Goh et al., (2013) (cited in Wang and Yu, 2017) investigated the effects on consumers' purchase intentions by both PGC and UGC in the context of social media. Although UGC was found to be 22 times more effective in persuading consumers than PGC, the fact that both forms of content function differently in how they persuade consumers led the researchers to propose that marketers should put forth a strategy which implemented both types of content for the most effective outcomes. Regarding streaming as an advertisement tool for video games, in conjunction with brand-generated content from the video game producers, the combination would result in an increase of purchases of the video game promoted by consumers.

Researchers delving into UGC have also studied the effects of popularity of user-generated advertising and consumer behavior. Steyn et al., (2011)(cited in Jin, 2018) uncovered advertisements labeled as unpopular were evaluated more negatively than advertisements labeled as popular by participants. Dhar and Chang (2009)(cited in Marchand, Hennig-Thurau & Wiertz, 2017) had similar findings when researching the correlation between popularity of artists and blog chatter and the sales of artists' albums.

The results showed a positive correlation between blog chatter and album sales, which was partly attributed to the popularity of the artist. Both of these studies suggest that the more popular (among consumers) an user-generated advertisement is, such as blogs in Dhar and Chang's study, the more likely the consumer will be compelled to let the advertisement have an influence on them. This conclusion is also supported in the video game industry directly through the research of Zhu & Zhang (2009) (cited in Hong et al., 2017). Zhu and Zhang found that UGC has influenced sales of less popular video games more so than popular video games. Applying the results of these studies to video games, one can see that the amount of internet chatter concerning video games prior to their release, which can be increased through the use of streaming or other UGC, may be used as a predictor of sales. In addition, streaming may also be used as a tool to positively influence sales of less popular or more underground game titles compared to more mainstream titles.

2.10 Uses and Gratification Theory

According to the work of Chunmei Gan & Weijin Wang, 2015, Uses and Gratification theory was first developed in radio communication, since then it has been mostly used for mass communication research. U&G distinguishes itself from early communication theories, since the audience is characterized as active, discerning, and motivated in their media use (Quan-Haase, et al, 2010; cited in Dwivedi, 2019), previous theories on mass communication viewed the mass media mostly having a uniform influence on individuals, being these individuals very susceptible to extrinsic influences. Within this theory there are assumptions, being those that individuals are active participants in the media and purposely select their media content, having this decision being influenced by their motivations and past media gratifications (Bondad-Brown et al., 2012; Cited in Habes, 2019).

Recently, the approach of U&G is been applied to explain an individuals' use of social media (Chunmei & Weijing, 2015). Kaplan and Haenlein (2010) (cited in Hjorth & Hinton, 2019), as in individuals seeking out new media content that coincides with their interests, it defines the notion of social media as digital technologies emphasizing user-generated content or interaction.

According to Hilvert-Bruce et al., (2018), live streaming, being a broadcast of user generated content, is growing and diversifying as a social media channel, but despite its rapid growth, there is limited research about viewer motivations and streaming, even less concerning Portugal on this subject.

Ruggiero (2000, cited in Hamari, 2018) defends the statement that the motivation behind using a certain media is associated with a particular gratification that is being sought, as in someone uses a type of media to gain something from it.

Having in mind the research conducted by Max Sjoblom and Juho Hamari in 2016, there are usually 5 UG needs classified in 5 categories, as shown in figure 3, being those affective (Venkatesh, 2000), cognitive (van der Heijden, 2004), personal integrative (Hernandez et al., 2011), social integrative (Smock et al., 2011) and tension release (Smock et al., 2011), cited from Hamari & Sjoblom, 2016, which are characterized in the hypothesis formulation.

Table 1- Types of UG Needs
Source: Own elaboration, adapted from Richard West and Lynn H.Turner, 2010, cited in Hamari and Sjoblom 2016.

NEED TYPE	DESCRIPTION
Affective	Emotional or aesthetic experience
Cognitive	Obtain Information, acquirement of knowledge
Personal Integrative	Empowerment of confidence and status
Social Integrative	Enhancement of connections with family and friends
Tension Release	Escapism and Diversion

3 Research Framework

3.1 Theoretical Model

As previously stated, there are 5 dimensions that stand as a foundation to gratification by the consumption of media (Sjöblom & Hamari, 2017). Even though there have been studies that characterized the motivations behind a certain group regarding media streaming content, there is no specified studies when it comes to streaming gaming content in Portugal, hence the need to understand more about this subject and study it further.

The theoretical model rendered below has the aim to determine whether these needs affect positively Twitch's media streaming usage in Portugal, in order to contribute to the existing literature concerning streaming gaming content. Furthermore, it is intended to determine if there are motivations that aren't contributing to streaming viewership the same way in comparison with external studies, being those the ones not focusing in Portugal.
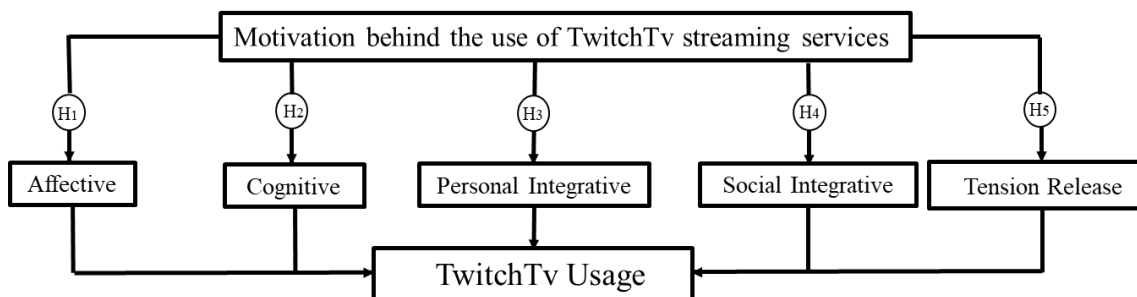
Figure 3: Theoretical Model

Source: Own Elaboration

3.2 Formulation of Hypothesis

To assess these needs and discover which one's affect positively Twitch's usage, hypotheses were created as a guideline.

Hypothesis 1: The affective need, which involves a more emotional experience towards the streaming content, is measured with the perceived enjoyment scale of Venkatesh (2000). This is due to a sense of tether to a media content, more than just a positive

approach towards it. Affective motivation influences the time spent watching streaming content. It is expected that individuals driven by affective motivation to have a small number of streaming subscriptions, showing a certain level of codependency, which ultimately results in more hours of usage per week (Hamilton, et al. 2014), therefore it is proposed that an increased level of affective motivation will predict a positive relation concerning time spent consuming streaming content.

Hypothesis 2: In previous studies (Hamilton et al., 2014; Whiting & Williams, 2013) it was demonstrated that seeking information and learning is a motivator for usage, in the case of gaming to better oneself through the acquirement of knowledge and gaming expertise. Giving a practical example through the gaming perspective, we have player A who wants to become better at a certain game, yearning to take more conscious decisions in order to obtain victory, and we have streamer X which is at the top of their ranked league. Since player A wants to improve, one of the ways to do so is to watch said stream (streamer X) with the purpose of learning through his actions, making fewer mistakes in the long run, improving his own skill. With this said it is expected, that in the current research, cognitive motivation affects in a positive matter the number of hours dedicated to streaming viewership.

Hypothesis 3: The time spent watching streaming content is increased in individuals driven by personal integrative motivation. When an individual states valid information about any subject and is praised for it, it develops confidence, the same applies in a streaming community. Showing knowledge and experience, with the consequence of improving one's reputation amongst their peers develops a "good feeling" rooted in that same experience. It is predicted that to achieve a stage of integrative fulfilment, the user needs to have a certain level of social interactions, that can include aspects of social influence as well as recognition from their peers (Blanca Hernandez, Teresa Montaner, F.Javier Sese, Pilar Urquizu, 2011, cited in M Sjoblom et al., 2017), thus resulting in a higher number of usage on the designated platform**.**

Hypothesis 4: Previous studies have demonstrated that the social integrative motivation influences positively the usage of online media (Hamilton et al., 2014; Pai & Arnott, 2013; Whiting & Williams, 2013). It is assumed that these past findings may be applied to video game streaming, leading individuals driven by social integrative motivation to show more hours of usage of streaming platforms. This hypothesis was developed with the expectation that individuals driven by this user need have a positive effect on the

number of streaming hours consumed, due to the multiple social aspect benefits tied to the service (Oestreicher-Singer & Zalmanson, 2013).

Hypothesis 5: The tension release motivation factor relates to a sense of escapism, whether it is wished to create a distraction or to simply relax oneself through the absorption of streaming content. This factor is described in previous research concerning motivation for usage of online communities (Papacharissi & Mendelson, 2010, Whiting & Williams, 2013). According to the available literature, it is expected that increased levels of tension release motivation increase hours of usage. There is an expectation that a significative correlation between hours watched and the tension release motivation, due to the attempt of feeling a sense of escape from everyday life.

The development of the hypothesis portraited have the objective of providing a more concrete notion along with a good base structure to carry on this research. Below lies a summarization of the research hypothesis above delineated.

Table 2- Hypothesis Summary

Source: Own elaboration

Research Hypothesis	
H1:	Affective Need has a positive effect in TwitchTv Usage
H2:	Cognitive Need has a positive effect in TwitchTv Usage
H3:	Personal Integrative Need has a positive effect in TwitchTv Usage
H4:	Social Integrative Need has a positive effect in TwitchTv Usage
H5:	Tension Release Need has a positive effect in TwitchTv Usage

4 Methodology

4.1 Research Design

Durrheim defends that a research design is a gathering of conditions for collection and analysis of specific data. It is seen as a framework or blueprint that connects the execution of the research with the proposed research question (Durrheim, K., 2006). With it, it helps provide a set of steps in order to answer the question "What makes you watch it, when you can play it?"

This specific study bases itself around a descriptive research design, having as added value statistical analysis, Shard and Bhat state that this research enables us to establish and figure the interactions between variables in the study (Helen L. Dulock, 1993, cited in Sharda and Bhat., 2019). Since it is intended to describe behaviors and to provide an accurate presentation of characteristics in individuals, this type of research is the one that best suits it.

Having in mind that the purpose of this study is to assess the existence of positive relations of the user needs on what concerns Streaming media usage in the Twitch platform, the type of research hereby mentioned becomes the most agreeable one to enact. Said research will have an empirical approach, based on observation and measurement of data collected bottomed on real life experience, drawing to conclusions from said collected data.

4.2 Universe and Sample

To assess information from this type of research, data must be usually gathered. This data will be addressed as the universe, where it resides all the information necessary for us to reach conclusions. This universe will be viewed as "Individuals who watch Streaming Gaming Content", since, in order to provide valid information to our study, one must consume streaming content. It is not possible to give a valid opinion on a motivational subject, whether it may be positive or negative, without experiencing it. This universe is being addressed concerning streaming gaming content regarding TwitchTV, a streaming platform that has an online feed of thousands of streamers with the objective of providing content to a determined viewer.

The study is about the effect that some regarded needs have on what motivates an individual to absorb gaming streaming content whereas they could be playing said game. Since the information and existing research about this specific topic in Portugal is scarce, the study is targeted towards Portuguese viewers in order to understand what is it that motivates said viewers to consume gaming streaming content.

The sampling method utilized was a non-probability type with a convenience approach, as they were chosen randomly. Typically, this type of sampling is inclined to be a favored technique among students since it doesn't have any associated expenses and is an easy option in comparison to other sampling techniques (Taherdoost H., 2016).

In terms of sample size, Gorsuch supports that 100 valid samples are the minimum required in order to proceed with further analysis, in this case using this analysis to depict motivational disparities between individuals (Gorsuch, 1990).

Having this in mind, the sample size of the information retrieved from the universe consists of 288 individuals, but as it will be stated afterwards, some aspects of the questionnaire make it so that some of those responses are rendered invalid. The final sample consists of 133 individuals, which are going to be explained afterwards.

4.3 Instrument Construction and Data Collection

The instrument that was chosen in order to gather intel for this research was an online questionnaire, illustrated in Appendix A. This questionnaire was created through GoogleForms, due to its accessibility on what comes to construct such survey. The concepts which this questionnaire bases itself on is complementary with the above-mentioned literature. The respondents were given an introduction to the survey as well as the purpose of the information that was being gathered.

The questionnaire was shared through numerous online platforms, from Instagram to Facebook, Whatsapp, Reddit and TwitchTv, although it was mostly focused on Twitch streaming chats and sub-reddits. In order to promote the adherence of Portuguese viewers, some of the survey promotions was written in Portuguese, but it was noticeable the difficulty of obtaining answers since the community guidelines on sub-reddits and streaming chats is very strict on what comes to self-promoting anything at all (most of this surveillance is due to mods, moderators of the rooms).

The survey begins with a brief introduction stating the purpose of this survey and is divided in 2 parts. Firstly, it has a set of questions in order to determine certain conducts such as weekly streaming hours watched, favorite streamers, number of streamers watched, employment status, as well as some characteristics concerning demographics, like the individual's gender, age and preferred streaming platform. Even though TwitchTV might not be an individual's preferred streaming platform, their data concerning the motivation to watch streaming content related to this platform can still be used in order to bring further insight to this research, one does not nullify the other.

The second part has a set of questions, based on previously portrayed literature, designed to gather intel in a way that it is possible to determine if there is a positive influence of a certain need concerning TwitchTv usage, and if so, representing the aim of each hypothesis, therefore, validating it. Its aim is also of obtaining different perspectives on what motivates someone to consume gaming streaming content in the determined streaming platform. In this group, 5 constructs were being analyzed: Affective, Cognitive, Personal Integration, Social Integration and Tension Release. These constructs were initially used with each Likert scale in order to have some correlation through previous research findings, however in this case it was all adapted into a 1-5 Likert scale in order to guarantee its validity in the current research context.

The addressed constructs can be found in the Table below (Table 3).

Table 3- Construct and Item Summary

Source: Own elaboration

Construct	Item	Adapted from
Affective	A1. I find using twitch to be enjoyable. A2. Using Twitch is exciting. A3. Using Twitch is entertaining.	Venkatesh (2000)
Cognitive	B1. Using Twitch, I can better decide which game I want to play than in the past. B2. Using Twitch, I am better informed about new games I consider playing. B3. Using Twitch, I find games I would not otherwise have found. B4. Watching Twitch, I am better informed about new game strategies. B5. Watching Twitch helps me get information on learning to play games. B6. Watching Twitch helps me look for information on game tricks.	Van der Heijden (2004) & Papacharissi and Rubin (2000)
Personal Integrative	C1. I like when streamers on Twitch take my suggestions into consideration. C2. I try that my comments improve my reputation among other Twitch users. C3. I feel good when my comments prove to other Twitch users that I have knowledge about the game being played.	Hernandez et al., 2011
Social Integrative	D1. Using Twitch, I don't have to be alone. D2. I use Twitch when there's no one else to talk or be with. D3. Using Twitch makes me feel less lonely.	Smock et al., 2011 & Chavis et al., 2008
Tension Release	E1. Using Twitch, I can forget about school, work, or other things. E2. Using Twitch, I can get away from the rest of my family or others. E3. Using Twitch is a habit, just something I do. E4. When I have nothing better to do, I use Twitch. E5. Using Twitch passes the time away, particularly when I'm bored. E6. Watching Twitch relaxes me. E7. Watching Twitch is a pleasant rest.	Smock et al., 2011

4.4 Data Procedure

Initially, the gathered data from the Universe underwent a displacement of its intel into the statistic software SPSS 28, after all the information was successfully transposed, an assessment was required in order to eliminate invalid information that we don't need. Having in mind that this study is directed to the Portuguese population, a filter was used to negate any non-Portuguese individuals and another filter was used to eliminate all individuals who didn't consume any streaming media content. The initial survey had 288 responses, and afterwards it was comprised into 133 valid responses (46,18% of the Universe), which is a good rate concerning that the promotion of the survey was in Portuguese in mostly English-viewed sub-reddits and streams.

This analysis segment begins with a sample characterization, providing with a summarized distribution of information regarding the questionnaire as well as a characterization of the valid responses. This part has an important component due to its ability to show us several insights, from which generation consumes more streaming gaming content, to the duality of whether an individual prefers to play or to consume streaming content, or liking both at the same degree, contributing to a more accurate characterization of Portugal's gaming streaming biome.

A Factorial analysis can be utilized in order to identify dimensions of a certain test (Mohsen & Dennick, 2011), therefore, with the goal of assessing the structure and identification of each dimension, a dimension reduction is to be conducted through an exploratory factor analysis, with the previous need of having assumptions met, followed by a scale reliability known as Cronbach's alpha, which has a purpose of bestowing a certain measurement of the internal consistency of a scale (Mohsen & Dennick, 2011), since a Likert scale is being used in this analysis, its plausible to utilize this test. Afterwards, calculated with the aid of previously stated SPSS, it is going to be presented a Descriptive Statistics of the constructs, through a study of their Mean and Standard Deviation, trying to promote a better understanding of each one.

After the dimensions are identified, with the scale validated and there exists a deeper insight onto the variables, due to their similarities, it was chosen to be conducted a One-Sample Student's T-test onto each of the variables. The purpose of a T-test is to compare the means of two groups, and is a type of parametric test (TK Kim, 2015), and in a One-Sample Student's T-test its intended to measure if the mean of a certain variable is statistically higher than the established test value. Using this test, it gives the ability to deduct the validity of our hypothesis in the context of having a positive effect concerning Twitch TV usage. In order to test if the effect is positive, the value for which we test our theory needs to be above the neutral response, and since we are measuring our variables through a 5 point-Likert scale, the neutral response is 3. Therefore, we are establishing the value for the test value as 3.5.

As previously stated, this last analysis will be conducted onto all 5 of the constructs, validating which needs have a positive impact onto this platform's usage, and, in case of rejection, which needs don't.

5 Data Analysis and Findings

5.1 Characterization of Sample

To better understand the profile of the individuals, this part is followed by a characterization of the determined sample, composed of 133 answers, knowingly being all of them Portuguese due to the filters used previously, addressing this research solely to the Portugal environment.

Concerning gender, 73,7% of the respondents were Male (N=98), while 24,1% were Female (N=32), having 2,3% individuals identifying themselves as "Other" (N=3).
On what comes to age (Figure 4), it was asked to state the date of birth through an interval in order to facilitate the determination of their belonging generation. Out of this filtered sample, it is easily noticeable the unevenness between generations, with individuals born between 1981-1996 (Millennials) having the highest distribution of this sample, being it of 56,4% (N=75). Furthermore, there are 33,8% (N=45) of the respondents who were born between 1997-2012 (Generation Z), 7,5% (N=10) born between 1965-1980 (Generation X), and a small number (N=3) of respondents born between 1946-1964 (Baby Boomers) with a distribution of 2,3%.
It is understandable that the highest distribution on what comes to age belongs to the Millennials and Generation Z, even more so to streaming gaming content, due to their early connection to electronic devices and social media usage.
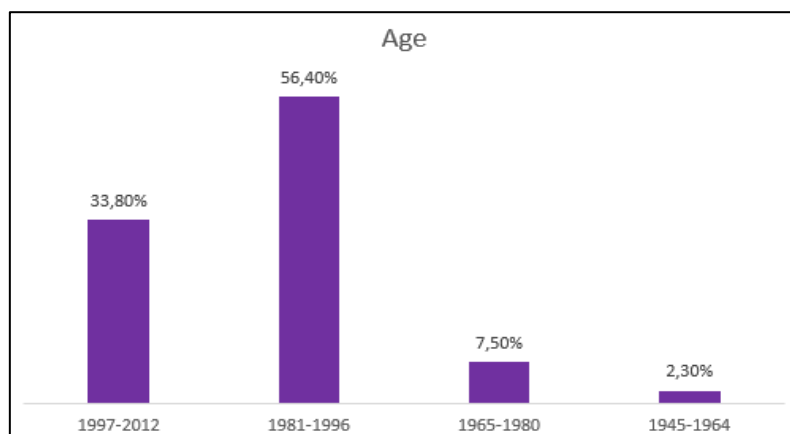

Figure 4

Source: Own elaboration

Regarding their employment situation, almost half of the respondents are working full time, exhibiting 44,4% of the distribution (N=59), and nearly a quarter of the respondents (29,3%) are still pursuing their academic education (N=39). Moreover, the remaining respondents are either working a part-time (N=18) or are unemployed (N=17), having a distributed percentage of 13,5% and 12,8%, respectively.

When it comes to the education level of this sample (Figure 5), we have a noticeable frequency of bachelor's degrees (56,4%) as well as a small frequency on primary level of education (2,3%), PhD (3%) and no education at all (0,8%). In order to totalize this demographic, there are 21 respondents with a secondary level of education (15,8%) and 29 which possess a master's degree (21,8%). Since we have 120 answers that compile the Millenials and Z generation, it is plausible to have this level of education.
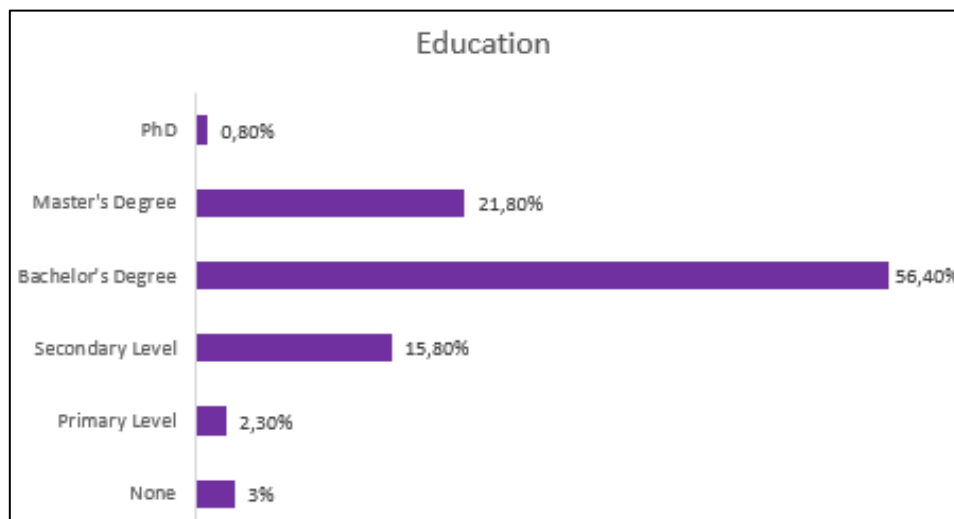
Figure 5

Source: Own elaboration

Regarding streaming consumption, as it can be observed in Figure 6 21,6% of the respondents (N=38) claim to watch 3 or less weekly hours of streaming content, whereas 15,3% claim to watch between 4 to 7 weekly hours (N=27), 17,6% watch between 8 to 11 hours per week (N=31), 9,1% claim to watch between 12 to 14 hours(N=16) and lastly, 11,9% of the respondents claim to watch above 15 weekly hours of streaming content (N=21). From these answers, we could concur that in terms of streamer diversity, a stunning 66,9% of the population has a low streamer diversity, watching between 1 to 4 streamers (N=89), 21,8% claims that they consume streaming content from 5 to 9

streamers (N=29) and the remaining 11,3% consume content from 10 or more streamers (N=15).
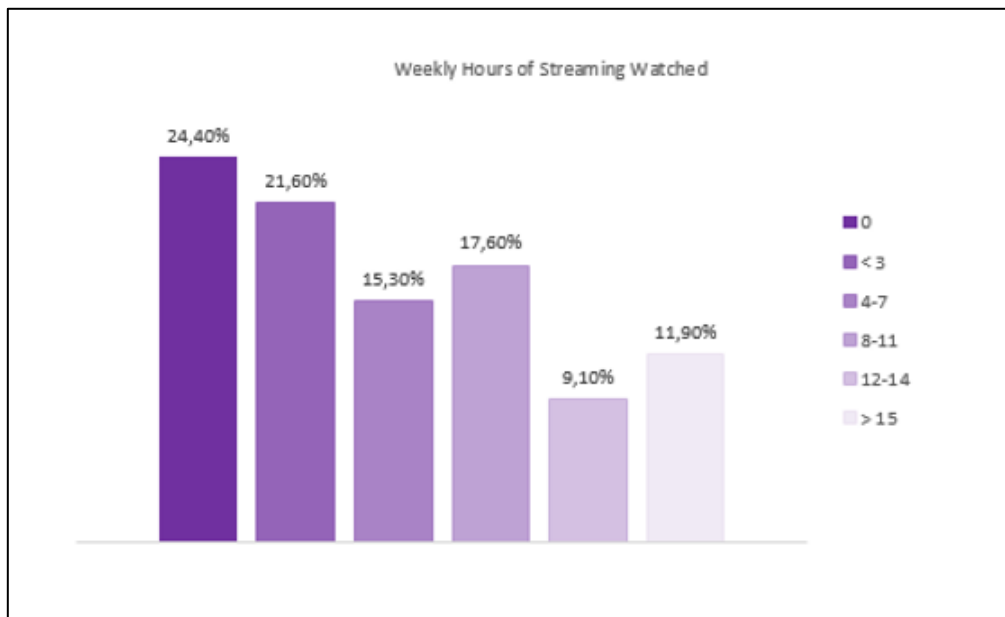
Figure 6
Source: Own elaboration

An open question was placed with the purpose of finding the preferred streamers amongst respondents, and it was determined to be an open response in order to state one or more streamers if that's what their preference is. At the top lies 4 non-Portuguese streamers with the minimum amount of hits being 15, being in the first position with 21 references a world-famous World of Warcraft streamer, Asmongold.

From the gathered information only 8 respondents, which transcribes into roughly 6% of the sample, referenced Portuguese streamers, contributing to the notion that the Portuguese community prefers consuming external streaming content over national content. The content most viewed is the American one.

Cross referencing the information we gathered from weekly streaming hours watched and age, we can state, in this research, that the generation that has a higher TwitchTv usage is the Millennial generation.

Regarding the preference between gaming and viewing (Figure 7), 26,3% of the respondents claimed they prefer to spend more time playing a game (N=35), while 19,5% claimed that they preferred to watch a video game stream (N=26). Having a higher

distribution than the previous ones, 54,1% of the respondents claimed that they enjoy both activities equally (N=72).

What do you enjoy/spend more time doing?
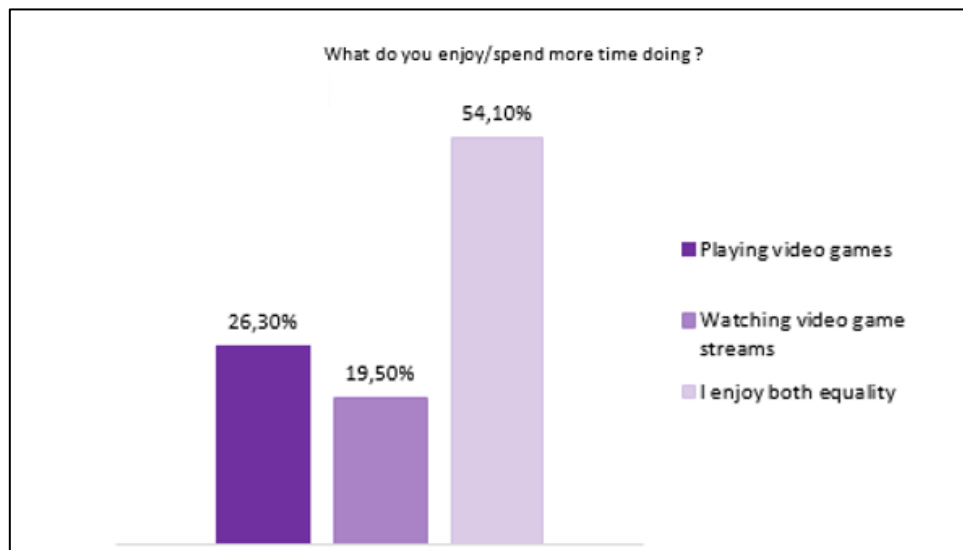
Figure 7

Source: Own elaboration

5.2 Dimension Reduction and Scale Reliability

To perform a factor analysis, there are two criteria that need to be met at the internal level for this procedure to be appropriate, referring to the Kaiser Meyer Olkin (KMO) test and the Bartlett's test of Sphericity.

The KMO test is used to verify the adequacy of the sample, and, according to Pallant (2013), a value of 0.6 or higher is considered an acceptable indicator. As for the Bartlett's test of Sphericity, a significant value lower than 0.05 stipulates that the analyzed data is acceptable for further analysis.

As it can be conveyed in the table below (Table 4), the value of the KMO test is 0.812, representing a good level of adequacy of this questionnaire's sample. Concerning the Bartlett's Test, the significance level is lower than 0.001, which is considered acceptable due to being lower than 0.05, dismissing the null hypothesis of no correlation between variables. Both the test results are within values of acceptance, therefore a factorial analysis can be performed.

Table 4 Kaiser-Meyer-Olkin and Bartlett's test of Sphericity results

Source: SPSS Output

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,812
Bartlett's Test of Sphericity	Approx. Chi-Square	1565,931
	df	231
	Sig.	<,001

The next step is the application of the factorial analysis, and as it can be seen in the Total Variance Explained, represented in Table 5, it is assumed that there are 5 different components, representing 66,46% of the original data, having in mind that it is defended by some that 60% of the total variance explained is considered as satisfactory (Bartholomew, D. J., Steele, F., & Moustaki, I. ,2008).

Table 5 Total Variance Explained

Source: SPSS Output

Total Variance Explained									
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6,528	29,674	29,674	6,528	29,674	29,674	3,609	16,403	16,403
2	3,127	14,212	43,886	3,127	14,212	43,886	3,459	15,722	32,125
3	2,077	9,440	53,327	2,077	9,440	53,327	2,956	13,438	45,563
4	1,752	7,964	61,290	1,752	7,964	61,290	2,560	11,635	57,198
5	1,138	5,172	66,462	1,138	5,172	66,462	2,038	9,264	66,462
6	1,062	4,826	71,288						
7	,908	4,125	75,414						
8	,792	3,599	79,013						
9	,659	2,993	82,006						
10	,486	2,211	84,217						
11	,437	1,986	86,204						
12	,420	1,908	88,111						
13	,396	1,798	89,909						
14	,364	1,655	91,564						
15	,333	1,512	93,076						
16	,298	1,354	94,430						
17	,282	1,283	95,712						
18	,261	1,187	96,899						
19	,203	,923	97,823						
20	,187	,849	98,671						
21	,151	,687	99,359						
22	,141	,641	100,000						
Extraction Method: Principal Component Analysis.									

In this particular case, it was used the assist of a scree plot in order to decide the number of components. As it can be seen in the Figure 8, after the fifth component, the values seem to level off. According to this display, and having in mind the percentage of variance explained, it is assumed that 5 components are to be retained.
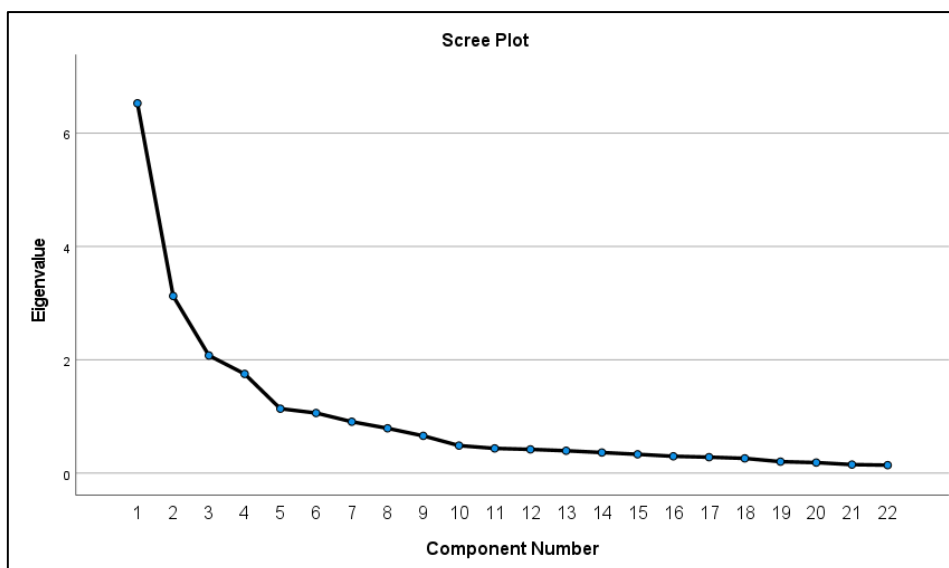
Figure 8 Scree Plot

Source: SPSS Output

The next step concerning this analysis is the Rotated Component Matrix, through Varimax pairing, which correlated the variables into 5 components (Appendix B). As it can be observed in said table, the items, which were previously established, are organized and well distributed through the dimensions, giving contribution to their validity. All coefficients with their absolute value below 0,41 were excluded from the Rotated Component Matrix.

 With the purpose of enhancing research findings, a statistical test can be performed in order to evaluate the degree of covariance between items of a scale. Since this research is composed of multiple items that are quantified through a Likert scale, a scale reliability analysis is of the utmost importance to determine the internal validity of said scale.

 The most frequent analysis on what comes to scale reliability is known as the Cronbach's Alpha. The interval to which this test can be measured is from 0 to 1. According to Garson (2005), it is recommended to interpret a Cronbach's Alpha value above 0,8 as a great evidence, values above 0,7 as recommended and acceptable as 0,6.

 Having a notion of the Cronbach's Alpha test, hereby in Table 6 is the constructs final structure and reliability.

Table 6 Constructs and Alpha Cronbach

Source: Own elaboration, assisted by SPSS Data

Initials	Construct	# of Items	Cronbach's Alpha
A	Affective	3	0,857
B	Cognitive	6	0,845
C	Personal Integrative	3	0,758
D	Social Integrative	3	0,841
E	Tension Release	7	0,856

As it can be visualized above, all but one of the values retrieved from this analysis show a great level of consistency, being them above 0,8, with the exception of the Personal Integrative Need, presenting a value of 0,758. Having in mind the interpretation recommendation from Garson (2005), values above 0,7 are deemed as recommended, thus validating the reliability of the scale.

This is used in order to verify if there are items that don't correlate (in terms of consistency) internally with the other items. In the event of an item being deleted transcribing into a significant rise on the construct's alpha value, it is advised to delete the item, increasing that constructs internal consistency. On what comes to the Cronbach's alpha in the event of removal of an item (table in Appendix C) there is almost no significant change in any of the constructs except in one, which is the Personal Integrative construct.

Table 7 Alpha Cronbach – Personal Integrative

Source: Own elaboration, assisted by SPSS Data

Construct	Cronbach Alpha	Item	Cronbach Alfa if Item deleted
Personal Integrative	0,758	C1	0,756
		C2	0,555
		C3	0,702

As represented above (Table 7), in the event of deleting C2, the construct being addressed changes its alpha value to 0,555 expressing a minor impact on the total construct. Notwithstanding the other 2 items being deleted don't significantly change its internal consistency, this means that removing this item from the construct would impose a loss of relevant information, turning the once valid and acceptable construct in a non-

acceptable one. Therefore, no items were removed in any of the initially presented constructs.

5.3 Descriptive Statistics

This section confers the analysis of results taken from questionnaire answers related to each item. This analysis is presented in the form of a descriptive analysis, calculated through SPSS 28.

The purpose of this analysis is to further examine the data in a statistical method ultimately summarizing the information. In order to have a better understanding of these constructs, all items were studied through their measurements of Mean and Standard Deviation.

The first analyzed construct is Affective. It compiles 3 questions and the values for its Mean and Standard Deviation are presented in Table 8. The item A3 – "Using Twitch is entertaining" has the highest Mean of 4,00, whereas item A2 – "Using Twitch is exciting" has the lowest Mean of 3,67. All the analyzed items concerning this construct are considered to have positive values since the neutral point of this Likert scale is 3.

Table 8 Descriptive Statistic concerning Affective construct

Source: Own elaboration, assisted by SPSS Data

Construct	Item	Question	Mean	Std. Deviation
Affective	A1	I find using Twitch to be enjoyable	3,93	0,741
Affective	A2	Using Twitch is exciting	3,67	0,894
Affective	A3	Using Twitch is entertaining	4,00	0,807

The second analyzed construct is Cognitive. This construct has a total of 6 questions and the values for both Mean and Standard Deviation for each item are presented in Table 9. In this construct, the item with the highest Mean of 3,32 is B2 – "Using Twitch, I am better informed about new games I consider playing.", and item B4 – "Watching Twitch, I am better informed about new game strategies" has the lowest Mean of 2,57. In respect to this construct, only 2 items are considered positive due to their Mean values being higher than 3.

Table 9 Descriptive Statistic concerning Cognitive construct

Source: Own elaboration, assisted by SPSS Data

Construct	Item	Question	Mean	Std. Deviation
Cognitive	B1	Using Twitch, I can better decide which game I want to play than in the past.	2,98	1,228
Cognitive	B2	Using Twitch, I am better informed about new games I consider playing.	3,32	1,216
Cognitive	B3	Using Twitch, I find games I would not otherwise have found.	3,05	1,308
Cognitive	B4	Watching Twitch, I am better informed about new game strategies.	2,57	0,940
Cognitive	B5	Watching Twitch helps me get information on learning to play games.	2,71	0,903
Cognitive	B6	Watching Twitch helps me look for information on game tricks.	2,67	1,092

The construct now in regard is Personal Integrative. It has a total of 3 questions and its individual item values for Mean and Standard Deviation are presented in Table 10. Regarding this construct, the item C1 – "I like when streamers on Twitch take my suggestions into consideration" and item C3 – "I feel good when my comments prove to other Twitch users that I have knowledge about the game being played" have the same value of Mean, being it the highest, of 3,50. Lastly, item C2 – "I try that my comments improve my reputation among other Twitch users", has the lowest Mean score of 3,36. All of the items related to this construct are considered to have positive values due to their Mean values surpassing 3.

Table 10 Descriptive Statistic concerning Personal Integrative construct

Source: Own elaboration, assisted by SPSS Data

Construct	Item	Question	Mean	Std. Deviation
Personal Integrative	C1	I like when streamers on Twitch take my suggestions into consideration.	3,50	1,020
Personal Integrative	C2	I try that my comments improve my reputation among other Twitch users.	3,36	1,054
Personal Integrative	C3	I feel good when my comments prove to other Twitch users that I have knowledge about the game being played.	3,50	1,197

The fourth construct being analyzed is Social Integrative. This construct, as the personal integrative and affective, also characterizes itself in 3 items, which their respective values showed in Table 11. As stated in said table, the item D1 – "Using Twitch, I don't have to be alone" has the highest Mean value of 2,90, and item with the lowest Mean is D3 – "Using Twitch makes me feel less lonely" with 2,54. All the analyzed items concerning

this construct are viewed as negative due to their Mean value being below the neutral point in this scale.

Table 11 Descriptive Statistic concerning Social Integrative construct

Source: Own elaboration, assisted by SPSS Data

Construct	Item	Question	Mean	Std. Deviation
Social Integrative	D1	Using Twitch, I don't have to be alone.	2,90	1,167
Social Integrative	D2	I use Twitch when there's no one else to talk or be with.	2,68	1,183
Social Integrative	D3	Using Twitch makes me feel less lonely.	2,54	1,234

The last construct being scoped is Tension Release, which is the highest itemized construct having 7 items, with its Mean and Standard Deviation values portrayed in Table 12. As shown in table XXX, the item E6 – "Watching Twitch relaxes me" has the highest Mean value of 3,89. Concerning the lowest Mean value, there are 2 items that have the same, being it of 3,14: E1 – "Using Twitch, I can forget about school, work, or other thing" and E2 – "Using Twitch, I can get away from the rest of my family or others". All the items referred in this construct have positive values comparing it with the neutral scale utilized in this questionnaire.

Table 12 Descriptive Statistic concerning Tension Release construct

Source: Own elaboration, assisted by SPSS Data

Construct	Item	Question	Mean	Std. Deviation
Tension Release	E1	Using Twitch, I can forget about school, work, or other things.	3,14	1,142
Tension Release	E2	Using Twitch, I can get away from the rest of my family or others.	3,14	1,166
Tension Release	E3	Using Twitch is a habit, just something I do.	3,52	1,222
Tension Release	E4	When I have nothing better to do, I use Twitch.	3,43	1,103
Tension Release	E5	Using Twitch passes the time away, particularly when I'm bored.	3,38	1,057
Tension Release	E6	Watching Twitch relaxes me.	3,89	1,099
Tension Release	E7	Watching Twitch is a pleasant rest.	3,88	1,087

In terms of Standard Deviation, referring to all constructs, there isn't a deviation that can pose a macro or micro variation, all values are accounted as average related to this data.

Though the viewing of this statistical analysis might appear to answer the hypothesis being tested, measuring them individually wont accurately represent its validation. Due to this fact, all the stated items above were compiled into each belonging construct with

the intent of fully measure the validation of each research hypothesis. Said validation is conducted in the next element.

5.4 Hypothesis Testing

This section is dedicated to the testing of the research hypothesis proposed in this thesis. This assessment will be conducted individually on the premises before presented with the purpose of testing its validity through statical analysis.

The parametric test that was chosen for this research was the One Sample Student's T-Test. Like all hypothesis testing, the one sample t test has a purpose of determine if the null hypothesis should be rejected, which is defined that the mean of the variable is equal to the chosen test value (Cressie, 1980, cited in Rochon, J., Gondan, M., & Kieser, M., 2012). Having this in mind, the objective of making this test concerning this research is to verify if the mean of a certain variable is higher than the chosen test, in order to prove its positive effect. For this to happen, there needs to exist a significance level lower than 0,005 as well as a positive value of t (0<t) (Volchok, 2020).

As stated above, the constructs that are going to be tested are Affective, Cognitive, Personal Integration, Social Integration and Tension Release. Since the used scale for this research was a Likert scale measuring 1 to 5 (1=Strongly Disagree, 2=Disagree, 3=Doesn't Agree or Disagree, 4=Agree, 5=Strongly Agree), the chosen test value for this testing is going to be 3,5 since it's the closest value measuring positive agreeableness. Hereby is the Hypothesis testing and respective validation. In the following Tables (Tables 13 through 17), it will be viewed the previously discussed t test values and significance level, as well as confidence interval of difference in order to gain additional insight to the analysis in case it is necessary to reach conclusions. Hereby is the Hypothesis testing and respective validation.

Table 13 Hypothesis Testing – Student's T-Test - Affective construct

Source: Own elaboration, assisted by SPSS Data

Construct	Test Value= 3,5						
	Mean	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of Difference	
						Lower	Upper
Affective	3,8672	5,881	132	<0,001	,36717	0,2437	0,4907

The first testing is referred to the affective construct, aimed to answer the first proposed hypothesis, H1. This hypothesis has the purpose of determining if the affective need has a positive effect on TwitchTv usage. As viewed from Table 13, the t value is positive (5,881), as well as the demonstrated level of significance being lower than 0,005, concluding that the null hypothesis is rejected. Additionally, the values of the confidence interval are both positive, stating that the mean of the construct is higher than the established test of 3,5. From this intel, we can validate H1 and conclude that the affective need does have a positive effect concerning Twitch usage.

H1 – Affective Need has a positive effect in TwitchTv Usage (Validated)

Table 14 Hypothesis Testing – Student's T-Test - Cognitive construct

Source: Own elaboration, assisted by SPSS Data

Construct	Test Value= 3,5						
	Mean	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of Difference	
						Lower	Upper
Cognitive	2,8822	-8,441	132	<0,001	-,61779	-,7626	-,4730

The second research hypothesis, H2, aimed to show that the cognitive need has a positive effect in TwitchTv usage, is being tested regarding its construct, demonstrated as cognitive. As observed from Table 14, nevertheless having a significance level below 0,005 this construct obtained a negative t value (-8,441), concluding that the null hypothesis cannot be rejected. Furthermore, it can be visualized in the confidence interval of difference that both its values are negative, stating that the value of the construct is lower than the pre-established test value. Therefore, H2 is rejected, and it is concluded that the cognitive need doesn't have a positive effect concerning TwitchTv usage.

H2 – Cognitive Need has a positive effect in TwitchTv usage (Rejected)

Table 15 Hypothesis Testing – Student's T-Test – Personal Integrative construct

Source: Own elaboration, assisted by SPSS Data

Construct	Test Value= 3,5						
	Mean	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of Difference	
						Lower	Upper
Personal Integrative	3,4536	-,596	132	,552	-,04637	-,2003	,1076

The third hypothesis being tested is hypothesis H3, addressing the personal integrative construct, which states that the personal integrative need has a positive effect in TwitchTv usage. As perceived in Table 15, the mean for this construct is closely valued to the established test value (3,45), having a mean difference of only 0,04637. However, the null hypothesis is concluded to be rejected due to the negative t value (-0,596), as well as the significantly high significance value (0,552). From the gathered information it can be concluded that H3 is rejected, therefore, it is assumed that the personal integrative need does not affect positively TwitchTv usage.

H3 – Personal Integrative Need has a positive effect in TwitchTv usage (Rejected)

Table 16 Hypothesis Testing – Student's T-Test – Social Integrative construct

Source: Own elaboration, assisted by SPSS Data

Construct	Test Value= 3,5						
	Mean	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of Difference	
						Lower	Upper
Social Integrative	2,7093	-8,762	132	<,001	-,79073	-,9692	-,6122

The fourth hypothesis stipulates that the social integrative need affects positively TwitchTv usage. The construct being tested in order to assess this theory is the social integrative construct. As observed in Table 16, the significance level is acceptable due to being inferior to 0,005, yet the null hypothesis can't be rejected having in mind that the t value is negative (-8,762). To add to this decision, the lower and upper limit of the confidence interval of difference are negative, shedding light to the fact that the social

integrative construct value is significantly below the pre-determined test value. Conclusively, H4 is rejected, meaning that the social integrative need doesn't not constitute a positive effect in TwitchTv usage.

H4 – Social Integrative Need has a positive effect in TwitchTv usage (Rejected)

Table 17 Hypothesis Testing – Student's T-Test – Tension Release construct

Source: Own elaboration, assisted by SPSS Data

Construct	Test Value= 3,5						
	Mean	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of Difference	
						Lower	Upper
Tension Release	3,4823	-,248	132	,805	-,01772	-,1592	,1238

Lastly, hypothesis H5 aims to verify if tension release has a positive effect in terms of TwitchTv usage. The construct being addressed in this testing is the tension release construct. As observed from Table 17, this construct has a significantly low mean difference (0,01772), even lower than the personal integrative construct (0,04637). Nevertheless, this test retains a negative t value, as well as a higher significance level than the accepted (0,005<0,805), concluding that the null hypothesis cannot be rejected. Having this in mind, the hypothesis in regard cannot be validated, therefore it is rejected, concluding that tension release is a need that does not have a positive effect on TwitchTv usage.

H5 – Tension Release Need has a positive effect in TwitchTv usage (Rejected)

As a summary of the hypothesis testing, the next table (Table 18) illustrates which hypothesis were validated and which ones were rejected.

Table 18 Hypothesis Summary

Source: Own Elaboration

Hypothesis	Validation
H1 - Affective Need has a positive effect in TwitchTv usage	**Validated**
H2 – Cognitive Need has a positive effect in TwitchTv usage	**Rejected**
H3 – Personal Integrative Need has a positive effect in TwitchTv usage	**Rejected**
H4 – Social Integrative Need has a positive effect in TwitchTv usage	**Rejected**
H5 – Tension Release Need has a positive effect in TwitchTv usage	**Rejected**

6 Conclusions and Implications

6.1 Main Conclusions

In this final section, a conclusive approach will be conducted regarding the research hypothesis proposed and their respective validity, with the intent of providing future research advice as well as stating the contributions brought by this dissertation to the existing literature. The purpose of this dissertation was to understand and to develop a deeper insight onto what motivates an individual to consume gaming streaming content via a streaming platform named TwitchTv in the Portugal environment, where each formulated hypothesis was composed of a user need in order to assert its positive effect on TwitchTv usage.

Through the uses and gratifications theory, an individual will consume a certain media content in order to fulfill a gratification, in other terms, if an individual wishes to consume a streamers gaming content because he feels affection towards him, that affection is viewed as an underlying motivation. It was intended with this dissertation to identify the positive needs concerning TwitchTv usage, solely to the scope of Portugal, since the information regarding Portugal in this topic is significantly scarce.

Regarding the research hypothesis, only one of the five studied needs were concluded to statistically have a positive effect on TwitchTv usage, being it the validation of H1 – Affective need has a positive effect in TwitchTv usage. This conclusion connects with (Hamilton et al., 2014) take on the affective motivation having the "power" to draw someone to stay in their stream, stating that from their analysis emerged a major notion that streams develop an atmosphere that reflects the streamer's attitude and values, projecting this personality, thusly influencing the viewer to stay, due to their attitudes and values being shared not only by the streamer, but by the emerging community. Transposing this information onto the Portugal environment, its concluded that the regular Portuguese viewer doesn't take that much into account learning about games or having a sense of escapism (wanting to escape the surrounding world), but to seek out an emotional and pleasant experience. Another factor that brings evidence to this is the values retrieved from the tension release need (Table 12), through the mean of E1, E2, E6 and E7, where the lowest values are related to a sense of isolation and the highest ones

related to a notion of relaxation and a "pleasant rest". This conclusion associates with Hamari and Sjoblom (2016) that stated that there exists a positive relation between the affective motivation and the number of streaming hours watched.

In terms of the other 4 needs, it wasn't possible to statistically prove that the cognitive (H2), personal integrative (H3), social integrative (H4) and tension release (H5) have a direct positive effect on TwitchTv usage, although from the descriptive statistics we could concur that concerning the cognitive aspect, Portuguese viewers want to be better informed about new games (Table 9, item B2) and yet they are not so entertained with new games strategies (Table 9, item B4), this sums up to the underlying notion that a Portuguese viewer choses to follow a new experience over developing new strategies on the same gaming experience. This dissertation poses an addition to the literature due to the short supply of information concerning Portuguese gaming streaming content, even more adapted to the motivational sphere.

Conclusively, the main objective of this dissertation was to be able to statistically answer the research question: What makes you watch it when you can play it? After thorough analysis it can be stated that, in the context of Portugal, the affective need is the underlying motivation that influences viewers to watch gaming streaming content instead of playing it.

6.2 Managerial Implications

Since the literature concerning motivational and gratification related to Portugal is quite short, this dissertation provides with a new point of view on what comes to streaming viewership. In terms of managerial implications, this poses a positive factor considering it transpires the motivation behind a usage, in other terms, if a certain brand wants to sell a product with the intention of using online streaming platforms as a way of promoting it, having knowledge of what motivates a costumer into remaining engaged to the stream is a significant factor to increase customer retention.

This strategy is supported by (Heinonen, 2011), expressing a strategy related to consumption of information, through linking the company and/or its offerings to real-time events, thus increasing the interest in the company. A viewer is consuming streaming content at the same time he's being advertised a certain product/brand.

It is important that we begin to look more closely into this emergent environment that is streaming, even more considering gaming streaming, the number of companies that are investing in Esports teams is growing at a fast pace, and brands should start adapting accordingly, in order to get the most out of this growth.

Through this dissertation, it was confirmed that Portuguese viewers are motivated to consume streaming content through the affective need, being it a need described, as previously stated, of a certain level of codependency. Marketing oriented companies can make use of this information in order to create customer profiles, having a better steered approach to the target audience. Furthermore, there is still the possibility of having joint ventures between companies and streamers, developing a win-win situation for both, Danny Hernandez (2016) concludes that game creators should foster their Twitch community in order to sell more and increase player retention (viewer retention).

The most important factor to keep in mind is the choosing of the streamer and the content he provides in order to target the audience that you want to attain.

6.3 Limitations and Further Research

The study at hand has limitations that need to be addressed in order to provide a better understanding of the results showed. Firstly, having in mind the sample size, 23% of the questionnaire answers that were validated were composed of the female gender, constituting almost one quarter of the full sample. It would be an interesting research to conduct a motivational study divided by genders in order to depict if there are significant changes. Secondly, even though it's a repetitive topic, the fact that there is a lack of previous studies specifically concerning motivations addressing gaming streaming content is itself a limitation in order to get a better insight on the research findings. Thirdly, this study was conducted in Portugal, which is a pro technology country, although, streaming didn't have the same adherence as in other western European countries. Not only in Europe, conducting this type of analysis in the other end of the world would gather interesting results. In comparison with the European gaming lifestyle, the Asian lifestyle in gaming itself is something entirely different, due to them having already the notion of professional gamer as a normal day job. Having further research into that field can help picture a macro notion of the European motivations towards gaming streaming and even comparing it to other continents and cultures.

Chen (2010) defends that U&G theory is a suitable approach to promote the study of online social networks and has the ability of paving the way for more research of this kind, a limitation that can be surpassed might be related to the scope at hand. In the future, the same questionnaire or concepts for the measurement of the motivational needs addressed in this dissertation can be used not only for a streaming platform but to any online network. In the meantime, motivational studies concerning specific generations might contribute to the creation of indicators concerning brand advertisement and customer profiling.

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8 Appendix

Appendix A - Questionnaire

Personal Information

Gender *

○ Female

○ Male

○ Other

Year of Birth *

○ 1997-2012

○ 1981-1996

○ 1965-1980

○ 1946-1964

Education *

○ None

○ Primary Level

○ Secondary Level

○ Bachelor's Degree

○ Master's Degree

○ PhD

Employment *

○ Student

○ Full-time

○ Part-time

○ Unemployed

Anterior   Seguinte   Página 3 de 5   Limpar formulário

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On the following section, honestly address the questions regarding streaming.

How many streamers do you enjoy watching? *

○ 0

○ 1-4

○ 5-9

○ 10+

What is your prefered streaming platform? *

A sua resposta

Who are your favourite streamers?

A sua resposta

What do you enjoy/spend more time doing? *

○ Playing video games

○ Watching video game streams

○ I enjoy both equally

Anterior   Seguinte   Página 4 de 5   Limpar formulário

On the following section, read the statement and choose the option most suited for you.

I find using Twitch to be enjoyable. *

	1	2	3	4	5	6	7	
Strongly Disagree	○	○	○	○	○	○	○	Strongly Agree

Using Twitch is exciting. *

	1	2	3	4	5	6	7	
Strongly Disagree	○	○	○	○	○	○	○	Strongly Agree

Using Twitch is entertaining . *

	1	2	3	4	5	6	7	
Strongly Disagree	○	○	○	○	○	○	○	Strongly Agree

Using Twitch, I can better decide which game I want to play than in the past. *

	1	2	3	4	5	6	7	
Strongly Disagree	○	○	○	○	○	○	○	Strongly Agree

Using Twitch, I am better informed about new games I consider playing. *

	1	2	3	4	5	6	7	
Strongly Disagree	○	○	○	○	○	○	○	Strongly Agree

Using Twitch, I find games I would not otherwise have found. *

	1	2	3	4	5	6	7	
Strongly Disagree	○	○	○	○	○	○	○	Strongly Agree

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Watching Twitch, I am better informed about new game strategies. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

Watching Twitch helps me get information on learning to play games. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

Watching Twitch helps me look for information on game tricks. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

I like when streamers on Twitch take my suggestions into consideration. *

	1	2	3	4	5	6	7	
Strongly Disagree	○	○	○	○	○	○	○	Strongly Agree

I try that my comments improve my reputation among other Twitch users. *

	1	2	3	4	5	6	7	
Strongly Disagree	○	○	○	○	○	○	○	Strongly Agree

I feel good when my comments prove to other Twitch users that I have knowledge about the game being played. *

	1	2	3	4	5	6	7	
Strongly Disagree	○	○	○	○	○	○	○	Strongly Agree

Using Twitch, I don't have to be alone. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

I use Twitch when there's no one else to talk or be with. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

Using Twitch makes me feel less lonely. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

Using Twitch, I can forget about school, work, or other things. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

Using Twitch, I can get away from the rest of my family or others. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

Using Twitch is a habit, just something I do. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

When I have nothing better to do, I use Twitch. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

Using Twitch passes the time away, particularly when I'm bored. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

Watching Twitch relaxes me. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

Watching Twitch is a pleasant rest. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

Appendix B - Rotated Component Matrix Table

Rotated Component Matrix[a]

	1	2	3	4	5
A1			,800		
A2			,676		
A3			,842		
B1	,825				
B2	,856				
B3	,664				
B4	,703				
B5	,722				
B6	,668				
C1					,574
C2					,849
C3					,831
D1				,830	
D2				,817	
D3				,798	
E1		,795			
E2		,770			
E3		,629			
E4		,700			
E5		,514			
E6		,614			
E7		,577			

Appendix C - SPSS Output – Cronbach's Alpha of Constructs and items if they are deleted

Affective Need

Construct	Cronbach Alpha	Item	Cronbach Alfa if Item deleted
Affective	0,857	A1	0,763
		A2	0,886
		A3	0,756

Cognitive Need

Construct	Cronbach Alpha	Item	Cronbach Alfa if Item deleted
Cognitive	0,845	B1	0,804
		B2	0,795
		B3	0,847
		B4	0,821
		B5	0,819
		B6	0,829

Personal Integrative Need

Construct	Cronbach Alpha	Item	Cronbach Alfa if Item deleted
Personal Integrative	0,758	C1	0,756
		C2	0,555
		C3	0,702

Social Integrative Need

Construct	Cronbach Alpha	Item	Cronbach Alfa if Item deleted
Social Integrative	0,841	D1	0,774
		D2	0,777
		D3	0,786

Tension Release Need

Construct	Cronbach Alpha	Item	Cronbach Alfa if Item deleted
Tension Release	0,856	E1	0,829
		E2	0,832
		E3	0,845
		E4	0,831
		E5	0,857
		E6	0,825
		E7	0,831