

# World of Streaming. Motivation and Gratification on Twitch

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**Abstract.** Within the gaming industry, live-streaming is becoming very popular as a form of online entertainment. Especially the so called social live streaming services (SLSSs) as a new type of social media have established in the last few years.

Subsequently a new web topic-specific live streaming service solely for streaming video games has emerged. One of the most prominent and current examples is Twitch.tv which provides the opportunity for streamers to broadcast a game and react to viewers' comments just-in-time. The viewers however watch the stream with the option to communicate either with the streamer or with other participants through a chat.

The main goal of this study is to determine the motivation and behavior of Twitch users. Therefore, a research model including research questions has been developed. This model contains the dimensions 'Information', 'Entertainment' and 'Socialization' which were investigated in relation to the average time spent on Twitch as well as potential expenses. The data for the analysis originates from a developed questionnaire (n = 791) and provides interesting results. One of the key findings reveals a connection between the time and money users spend on Twitch. Of particular note is also the significance of the dimension 'Socialization'.

**Keywords:** Streaming · Social live streaming services · Twitch · Use · Gratification · Motivation · Money · Media usage

## 1 Introduction

One of the most prominent examples for social live streaming services is Twitch with collectively more than 459,000 years-worth of video [1]. These streams mainly deal with video games that are broadcasted.

Nowadays, more and more internet users not only consume information but also actively produce it. Toffler characterized this type of user as "prosumers" [2]. Consumers, producers and prosumers use streaming platforms. Concerning Twitch, consumers only watch streams, producers solely stream and prosumers do both. Users who only watch streams are called viewers and users who stream and sometimes also watch streams are streamers. Besides streaming, a major part is real-time communication

through chatting. Twitch has become an integral component of the viewers' life as they are watching it progressively on a daily basis. In 2015, 421,6 min were monthly watched per viewer (for comparison, YouTube 291 min.) and users who watch Twitch on their smartphone make up 35% of all users every month [1, 3]. The usage of Twitch is free of charge; however, viewers have the possibility to subscribe to a specific streamer, to donate to a streamer or a good cause. Over \$17,400,000 were raised for different charities in 2015 [1]. The popularity of Twitch has risen not only in the United States but also in Germany. Twitch is ranked on place 48 of the most visited websites in Germany<sup>1</sup>.

With growing usage of streaming platforms like Twitch, the motivation of this paper is to look closer at the reasons why and how Twitch is used in Germany and why some of the users spend money on it even though it is free of charge in general. Since Twitch and other streaming platforms are a rather new phenomenon for the gaming industry, research is still sparsely conducted. This paper will explore the motivation for using Twitch regarding the time and money spent on it.

## 2 Related Work

Along with the gaming industry, a new type of social media has been established in the last few years. Social live streaming services (SLSSs) are defined by specific characteristics: synchrony, real-time broadcasting of the users' own program, usage of their own devices, interactions between the audience and the broadcaster and lastly the possibility of a gratification system [4]. This new form of online entertainment developed into one of the main entertainment media [5, 6]. As Cheung and Huang [7] point out, recent social studies reveal a considerable number of casual players who favor watching games on a livestream rather than playing themselves. The popularity of SLSSs and the growing gaming industry in general have been ascertained and treated in previous studies [5, 8].

To determine the motivation of why people consume different types of media – including SLSSs – is one of the biggest area in communication and media science [9]. One of the most prominent approach to answer this question is the Uses and Gratification theoretical perspective [10–12]. This approach intends to answer which gratifications the audience gains by consuming a specific type of media [13]. The main difference to other approaches is that the audience is not passively consuming the media, but rather actively consuming it to satisfy one's own needs [14]. In the beginning of the seventies, McQuail et al. [15] established four usual motivations to satisfy needs by using media: developing and portraying of individuality, seeking for information, entertainment, and socialization. These motivations were adapted and customized by other researches over the years. Hsu et al. [16] used these motivations to explain the use for social media. Developing one's own personality underlines the need to self-portrayal and seeking of information forms the basis of requesting new information, which can be satisfied by using social networks. The gratification of

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<sup>1</sup> [www.alex.com/siteinfo/twitch.tv](http://www.alex.com/siteinfo/twitch.tv).

entertainment belongs to the demand of joy by using the media and to fulfill the need of socialization, social networks are used to be in touch with others.

Twitch in general, especially concrete influential factors considering the different motivations to use it, is still a new area which needs to be explored further. Since SLSSs are a new type of social networks, the motivations based on the Uses and Gratification theory can be adapted and be further developed for Twitch as well.

The gratification of self-portrayal is the basis for the usage by streamers. One of the main reasons to create content and the need to portray oneself is to entertain or inform others, but mainly to evoke reactions [17]. The form of reactions differs from streamer to streamer. Some want to build a community and enjoy the social interactions, some want to get acknowledgment for what they are doing and be praised [8].

Viewers on Twitch can find new information about games, strategies and methods, which can satisfy the need for seeking information [18]. Twitch offers different functions for the user to seek out information: by viewing a stream and learning from the streamer or by communicating with other viewers, as they may have new information as well.

Along to watching the stream, the streamer himself can contribute to the entertainment need of the viewer. This sort of entertainment can be compared to watching TV shows or movies [19]. Furthermore, Twitch offers tournaments and other eSports events, which can be compared to traditional sport events [20]. Along with positive afflicted entertainment, there is also negative afflicted entertainment while watching streams. To criticize a streamer in a negative way or trolling him can also be described as a form of entertainment for the troll [21].

Based on a multidisciplinary framework Gandolfi [24] identified different types of streams, e.g. “the professional” which is reliant on the streamers performance skills and contains partial interaction with viewers. Twitch is a platform where viewers can not only interact with the streamer e.g. through the chat, but also with other viewers. These interactions can fulfill the need of socialization by getting in touch with other users who share the same interests. Although the communication takes place online, friendships can develop between the viewers based on their shared opinion and likes [22]. In addition to that, building of communities is also common. McMillan and Chavis [23] described the feeling to belong to a community as a corporate feeling. Members of a community share an abandonment and pursue similar objectives like the need for affiliation, integration of new members, sharing of emotions and socialization [23].

The motivations based on the Uses and Gratification theory focus on satisfying the needs of the viewer or user of the medium. But one of the characteristics of a SLSS is that there is a possibility to reward the streamer as well [4]. There are different approaches to reward a streamer. On the one hand a viewer can reward the streamer simply by watching the stream, since the invested time is a resource as well. Twitch is used approximately more than 20 h per week by half of its users [1, 25]. On the other hand, a viewer can reward and support the streamer by spending money. Viewers have the possibility to make a one-time donation where the amount of the money is not determined or they can commit to a monthly subscription for \$4.99. Most of the time, the streamer acknowledges the support and mentions the viewers who just spend money by name (Fig. 1).

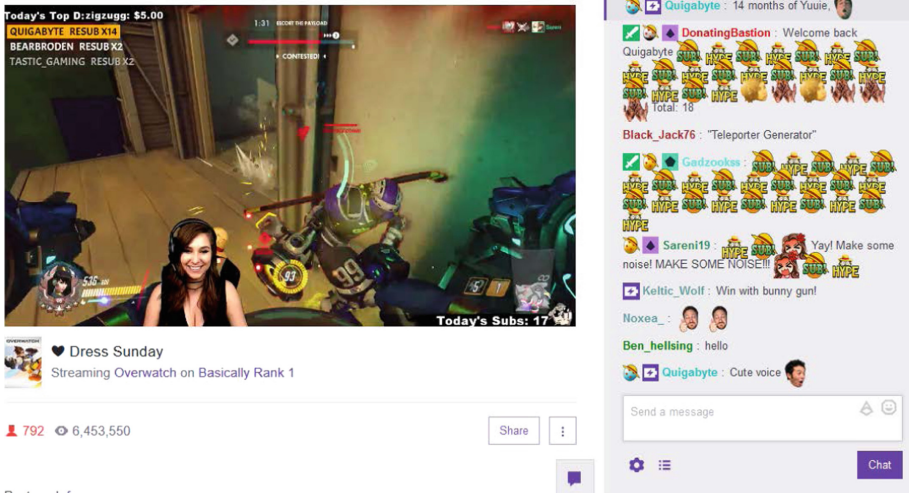


Fig. 1. Screenshot of a Twitch channel

Therefore, not only the streamer is rewarded, but the viewer is also rewarded by the interaction with the streamer. This leads to the question if the viewer's action is selfless and based on the goal to support the streamer or if the viewer wishes to receive a reward in return. As of today, this study differs from others by combining the motivations to use Twitch with the fact if money or time was already spent as a type of gratification.

### 3 Methods

To investigate the success of Twitch about motivation, money and usage time, the following research questions emerged from the previous literature and ideas.

RQ1: What are the most popular motivations to use Twitch?

RQ2a: How does the motivation differ if money was spent?

RQ2b: How does the motivation differ by analyzing the average usage time?

RQ3: Are usage time and money correlating with each other?

These questions have guided the development of the research model (Fig. 2). Based on the model, a questionnaire was developed to answer the research questions. On the one hand the questionnaire was distributed to measure why and how much Twitch is used and on the other hand whether the participants already spent money on it. Results are focusing on the exploration of the motivations of Twitch users who only use it as a viewer.

To avoid an unequal distribution among different countries, only German individuals were asked to fill in the questionnaire. A pretest with ten German participants was carried out. While answering the questions, problems could be found and corrected.

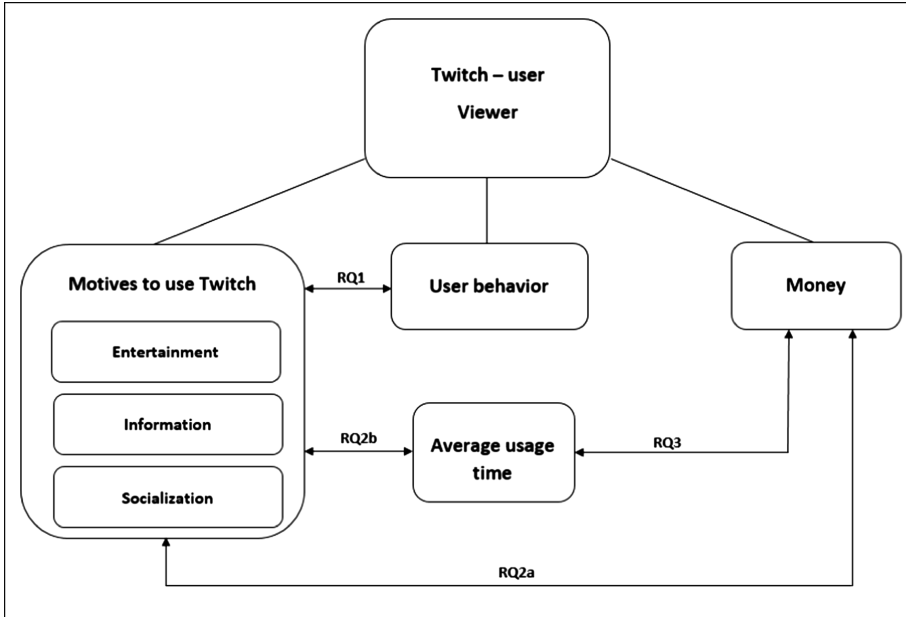


Fig. 2. Research model

The questionnaire was available online from December 30th, 2015 until February 15th, 2016, and was disseminated on the authors' Facebook walls as well as in several Facebook groups, forums – especially Reddit<sup>2</sup> because of its wide scope among users – and on Twitter through corresponding hashtags. Additionally, through the private message function Twitch streamers were asked to distribute the questionnaire in their stream and the chat. Answering the questionnaire took approximately 10 to 15 min. The questionnaire is composed of 23 items in total.

To measure the time users spent on Twitch, the participants had to state the average number of hours they use the platform every week. The information, if money was already given in form of a donation or subscription, was part of the questionnaire.

In order to answer the research questions, the different reasons to use Twitch regarding time and money spent on the platform are analyzed. Hence, all investigations of this study are based on the viewers. In addition to that, chosen demographic facts are considered.

The main part "Motivations to use Twitch" is separated into the three subparts, based on the uses and gratification theory [16], namely Entertainment, Information and Socialization (Fig. 2). Self-presentation as an aspect has been excluded, because this study focuses solely on the viewers who cannot represent themselves like streamers. In the questionnaire, the items in *Information* deal with different aspects as involving information – e.g. getting or possessing information – including items like using

<sup>2</sup> <https://www.reddit.com/>.

Twitch to have something to talk about with friends [7] or to learn new gaming techniques [20, 26]. While the items in *Entertainment* include reasons for using Twitch for pleasure, e.g. being entertained [5, 20] or to avoid boredom [27], but also negative reasons like criticizing streamers [28]. The subpart *Socialization* consists of reasons based on solidarity and getting in touch with others, for example, using the chat [8, 20, 26] or trolling other users [29]. However, Socialization also includes reasons to use Twitch to get in touch with streamers.

For every item of the three categories, a five-point Likert scale was used. The participants were informed that the answer options have the same distance on a scale of sentiments: “Strongly Disagree” (1), “Disagree” (2), “Undecided” (3), “Agree” (4) and “Strongly Agree” (5). To test the internal consistency of our 16 answer options, which specify the reasons to use Twitch, Cronbach’s Alpha was calculated [30].

For further investigations, new variables were created by summing up every item for each category. This means that Entertainment and Information can have a minimum value of 5 and a maximum value of 25 as there are five items with values from 1 to 5, while Socialization has a minimum of 6 and a maximum of 30 as there are six items. To be able to compare the new variables with each category, the summed up values were divided by the respective number of items.

By presenting the average values of the five-point Likert scale for the different reasons for using Twitch, RQ1 can be answered. Important factors, like the usage time of a user and the willingness to financially support a streamer may be an influential key factor. Therefore, RQ2 focusses on the influence of the factor money (RQ2a) as well as time (RQ2b) and is answered by investigating the resulting motivations. At last, comparisons between usage time and money are made in order to answer RQ3.

## 4 Results

Overall, 791 people filled in the questionnaire. The first two questions intended to investigate whether the participants know Twitch and if they use it. 695 (87.9%) are acquainted with the live-streaming platform. Twitch is used by 603 (86.6%) of them. Further results are all based on the Twitch users.

For all test items regarding the motivation to use Twitch Cronbach’s Alpha ( $\alpha$ ) was 0.770, which is an indicator for an “Acceptable” internal consistency and a “motivationable goal” [31].

### 4.1 Motivations of Twitch Users

To answer RQ1, the different motivations why people use Twitch are analyzed by calculating the arithmetic mean (Table 1).

The highest arithmetic mean for the category *Entertainment* is the particular motivation to be entertained with a value of 4.56. The next motivations in a descending order are: to follow gaming events with a value of 3.95, to have an alternative for television with 3.74 and to avoid boredom with 3.48. The only answer with an average below 2 is criticizing a streamer in a negative way (1.19).

**Table 1.** Motivations to use Twitch

<i>I use Twitch...</i>	Average
<b>Entertainment</b>	
to be entertained. (E)	4.56
to follow tournaments and events. (E)	3.95
as an alternative or addition for TV. (E)	3.74
to avoid boredom. (E)	3.48
to criticize a streamer in a negative way. (E)	1.19
<b>Socialization</b>	
to communicate with other viewers through the chat. (S)	2.23
to play with other users. (S)	2.13
to be part of a community. (S)	2.10
to support a streamer financially. (S)	1.86
to get in touch with a streamer. (S)	1.80
to troll/annoy other users. (S)	1.35
<b>Information</b>	
to learn new gaming strategies and techniques. (I)	3.46
to be up-to-date. (I)	2.57
to look up a walkthrough of a game. (I)	1.90
to be able to talk about it with my friends. (I)	1.60
to obtain information about hardware. (I)	1.52

(E) = *Entertainment*, (C) = *Sozialization*, (I) = *Information*; N = 603

For the category *Socialization*, there is no average higher than 3. The highest arithmetic mean is 2.23 with the motivation to communicate with others. Using Twitch to play together with other viewers (which has a mean of 2.13), and using it to be part of a community (with 2.10) have an average above 2, while the remaining three answers are below 2.

For the category *Information* the answer that is most agreed to is using Twitch for learning new gaming strategies or techniques with an arithmetic mean of 3.46. Using Twitch to be up-to-date is the second highest answer with an arithmetic mean of 2.57. All of the remaining answers have an arithmetic mean below 2.

To see which category has the highest mean overall, three new variables are used. *Socialization* has a mean of 1.91. *Information* has an average overall mean of 2.21 while *Entertainment* has the highest mean of 3.39.

## 4.2 Influence of Money and Usage Time Regarding Motivation

About one third of the participants (31.5%, n = 190) have already spent money on Twitch. In addition to that, they were asked what kind of payment they made: donation, subscription or both. While 22.6% (n = 43) donated to a streamer and 31.6% (n = 60) subscribed, most of them did both (45.8%, n = 87). Apart from that, they were asked to specify the motivations for their payment. With 92.1% (n = 175), the main motivation is to support a streamer financially.

The next most common motivation is to have the advantages of a donation or subscription (25.3%,  $n = 48$ ). There are different advantages users could receive from streamers, which were also noticed in the observations. Most of the advantages of a donation or subscription reveal benefits for viewers, for example, the usage of the chat or the communication with streamers. In most streams, the streamer mentions a viewer who subscribed or made a donation during the stream. Some of the monitored streamers even play a song to put focus on the new donation or subscription. Additionally, most streamers express their gratitude verbally on stream immediately. Most of the small streamers do not offer many advantages like mentioning the viewer who spends money, while paying viewers from a mid-sized streamer also have influence on the chat. Donors or subscribers of more popular streamers are not only mentioned, they also have an influence on the current game and also the opportunity for exclusive chats. Moreover, subscribers have the chance to get into an exclusive chat that is only available for them. As a consequence, the chat for paying viewers is not spammed.

Nearly none of the participants are willing to pay for more or better prizes in draws and contests (1.6%,  $n = 3$ ). Motivations given via the free text field were mostly about charity events. Furthermore, the new variables were utilized to see how the average changes after selecting participants who already spend money from those who did not (RQ2a). *Entertainment* has the highest mean of 3.56 for Twitch users who already spend money on it. The motivation with the highest mean for participants who did not spend money on Twitch is also *Entertainment* with 3.31. An overview of the different arithmetic means is shown in Table 2.

**Table 2.** Average of the summed up variable regarding money

	Information	Entertainment	Socialization
Money spent	2.25	3.56	2.45
No money spent	2.19	3.31	1.66
Difference ( $\Delta$ )	0.06	0.25***	0.79***

\*\*\* $p \leq .001$ ,  $N = 603$

As a result, the highest difference between the summed up variable regarding if money was spent or not is for the category *Socialization* ( $\Delta = 0.79$ ). Due to the fact that *Socialization* stood out the most, a closer look on the six items has been taken (Table 3).

The biggest gap is 1.19 for supporting a streamer, followed by communicating with others (0.96). Furthermore, the highest arithmetic mean for users who already spent money is 2.89 (communicating with other viewers through the chat). For those who did not spend money on Twitch, the highest arithmetic mean is 1.93 with the same motivation.

Beside the money the users rated their average usage time of Twitch with a number of hours. Participants were split up evenly into five groups regarding their average usage time. The first group is based on those who spend 0 to 1 h ( $n = 100$ ) per week on Twitch, followed by 2 to 3 h ( $n = 123$ ), 4 to 9 h ( $n = 138$ ), 10 to 18 h ( $n = 121$ ) and more than 18 h ( $n = 121$ ).

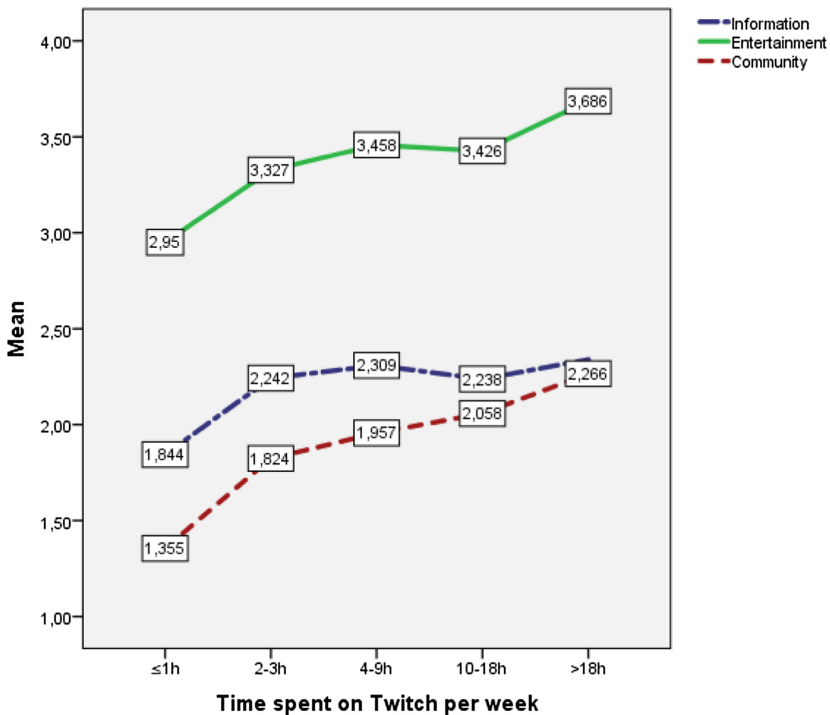


**Table 3.** Mean of money spent on Twitch regarding *Socialization* motivations

<i>I use Twitch to...</i>	Did you already spend money on Twitch?		Difference
	Yes	No	
be part of a community	2.74	1.81	0.93***
communicate with other viewers through the chat	2.89	1.93	0.96***
troll/annoy other users	1.52	1.27	0.25***
support a streamer financially	2.67	1.48	1.19***
get in touch with a streamer/to get his attention	2.28	1.57	0.71***
play together with other users	2.62	1.91	0.71***

\*\*\* $p \leq .001$ , N = 603

To answer RQ2b ‘*How does the average time spent on Twitch per week influence the motivations to use it?*’ the arithmetic means of the three superior motivations to watch Twitch were compared in regard of the time the participants spend on Twitch per week. For each of the five groups concerning the time, the most important motivation to use Twitch is the *Entertainment* factor (Fig. 3). *Socialization* is the motivation with the highest difference between the participants who spend only up to one hour a week on Twitch and those who spent more than 18 h on the platform (1.35 to 2.27).



**Fig. 3.** Motivations to use Twitch by usage time

For a better and more detailed investigation how the time spent on Twitch correlates with the motivations to use it, further analysis was carried out. Through this, a closer look at the single answer options of *Socialization*, *Information* and *Entertainment* is taken.

Table 4 shows a more detailed view of the different motivations to use Twitch. In this table, the correlations of the particular motivations and the usage time are represented. The main motivation to watch Twitch is to be entertained for most of the participants. This is independent of the average time they spent on Twitch ( $\bar{X} = 4.56$ ). Getting entertained is also represented in Table 4. The results of the correlation between the named motivation and the usage time give:  $r_s = 0.27$ . Thus, there is a positive correlation between the time participants spend on the platform and the usage motivation to be entertained. According to the Table 4, the highest correlation for the *Entertainment* aspect is between the motivation to use Twitch as an alternative for television and the usage time ( $r_s = 0.38$ ).

**Table 4.** Correlations between the usage time and the motivations to use Twitch

Motivations to use Twitch	Spearman's-Rho ( $r_s$ )
<b><i>Socialization</i></b>	
I use Twitch to be part of a community	0.35***
I use Twitch to communicate with other viewers through the chat	0.27***
I use Twitch to support a streamer financially	0.31***
I use Twitch to play with other users	0.22***
<b><i>Entertainment</i></b>	
I use Twitch as an alternative or addition for TV	0.38***
I use Twitch to be entertained	0.27***

\*\*\* $p \leq .001$ ; \*\* $p \leq .01$ ; \* $p \leq .05$ ,  $N = 603$

In regard to *Socialization*, more motivations show higher rank correlations with the usage time. The correlation between the motivation to use Twitch to communicate with others through the chat and the usage time is  $r_s = 0.27$ , to use Twitch to support a streamer financially ( $r_s = 0.31$ ) and to use Twitch to play with other users ( $r_s = 0.22$ ). The strongest correlation is between usage time and the motivation to use Twitch to be part of a community ( $r_s = 0.35$ ). These correlations show that the more hours the participants spend on Twitch every week, the more Socialization-based the motivation is.

### 4.3 Correlation of Money and Usage Time

By comparing participants who spent money in combination with their stated time spent on Twitch per week, RQ3 is answered (Fig. 2). Most of the donators and subscribers are assigned to the groups that watch Twitch 10–18 h (30%,  $n = 57$ ) or more than 18 h (33%,  $n = 63$ ). In comparison to that, participants who do not spend money on Twitch use it infrequently on a weekly basis.

In Fig. 4 a constant increase of users who already spent money on Twitch is noticed depending on the time these users spent on the platform.

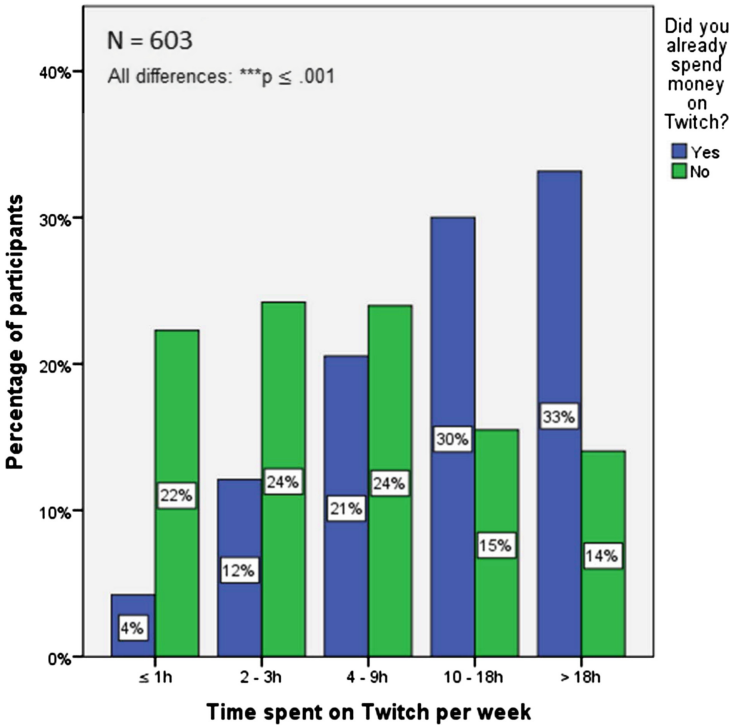


Fig. 4. Usage time and money spent

## 5 Discussion, Limitations and Outlook

The area of social live streaming services is a fast-growing domain and therefore deeply interesting to investigate. Particularly Twitch has a high number of users who spend time and money on the platform and produce content which leads to high traffic numbers.

The main goal of this investigation was to identify the motivation for Twitch usage, especially regarding the time and money aspect. The motivation to use Twitch has been divided into the aspects of *Socialization*, *Entertainment* and *Information* whereby every category contained multiple (motivation) items. The main purpose regarding the data of the questionnaire was to compare the relative importance of the items and based on the classification into the three mentioned categories some superior differences have been determined. With the users' feedback certain motivations appeared to be the most approved, which afterwards have been analyzed in relation to the time and money spent. As a consequence, it was possible to detect some correlations between the three categories and the factors time and money.

The general motivations of Twitch usage are discussed in RQ1. Overall the motivations of being entertained (*Entertainment*) and learning new gaming strategies or techniques (*Information*) prove to have the highest approval. Taking a closer look at the results, differences between people who spend money on Twitch by making a donation or subscription and those who do not can be determined. Those differences give an answer to RQ2a. Regardless of whether participants spent money on Twitch, the main motivation for using the platform is *Entertainment*.

In contrast to *Entertainment*, the *Socialization* aspect seems to have an impact on the decision to donate or subscribe on Twitch, as assumed in RQ2a. Most of the advantages of donations and subscriptions are *Socialization*-based, for example, exclusive emoticons for the chat, the possibilities to communicate with the streamer through a donation message or exclusive chats and games. In addition to that, \$17.4 million were collected for charity in 2015. Participants justify their payments mostly to support the streamer or to do some charity. Self-interested reasons do not seem to be important for the paying viewers. Reasons could be related to a study from Dunn et al. about ‘Spending Money on Others Promotes Happiness’. For example, viewers who want to be in a community need to use the chat in order to socialize [32].

Analogous to the money aspect in RQ2a, the time spent on Twitch in particular is analyzed through RQ2b. Moreover, the approval of motivations to use Twitch (in terms of *Socialization*, *Entertainment* and *Information*) increase with the time spent on Twitch. The *Socialization* aspect shows the most interesting outcomes, especially the high difference between people who use Twitch excessively and those who use it rarely (0.91). With those findings, RQ2b can be answered, as people who are part of a community on Twitch need to spend more time on the platform in order to socialize or in other words: the more hours the participants spend on Twitch, the more *Socialization*-based is the motivation.

RQ3 aims to investigate whether there are correlations between the factors money and time. After analyzing the time and money separately (RQ2a & RQ2b), RQ3 aims to reveal possible correlations between both factors. On the one hand a high ratio of the participants who spent money on Twitch were assigned to groups with a high usage time and on the other hand participants who did not spend money on Twitch used the platform infrequently on a weekly basis. Therefore, the more time a user spends on the platform, the more likely money will be spent through a donation or a subscription.

During the development of the questionnaire only German participants and streamers were chosen to avoid an unequal distribution among different countries. Since solely German people were surveyed, it would be interesting to see if there are differences in other countries.

In this study only 16.9% (n = 102) of the participants are female. As it may seem imbalanced, this represents a realistic distribution of Twitch users [33, 34].

It is needed to be mentioned that only parts of the results of the questionnaire are presented. For instance, questions about the importance of the interaction between viewer and streamer or about the usability aspect are excluded in this study in order to not exceed the given limits. Furthermore, some of the correlations are slight and should therefore not be overestimated.

It would be of interest to do further research on Twitch and the impact on its users. Our model could possibly be altered into different areas, such as the usability aspect of

Twitch, to get more information about viewers' and streamers' behavior. Concerning this, it would be interesting to analyze the results of the remaining questions which are not included in this study. As the *Socialization* aspect seems to have a big influence on Twitch users it would be interesting to investigate how users are interacting. In this context, the role of the streamer needs to be examined, too. Since this paper only investigates the motivations to use Twitch as a viewer it would be interesting to compare these motivations with those of active players (and others, who do neither watch nor stream through SLSSs). These findings could lead to a new model which could be either compared or included into the current research model presented in this paper.

Lastly, a comparison between users of other existing platforms, like hitbox<sup>3</sup> or YouTube Gaming<sup>4</sup>, would be of interest to examine differences regarding the usage.

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<sup>3</sup> [www.hitbox.tv](http://www.hitbox.tv).

<sup>4</sup> <https://gaming.youtube.com>.

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