Motivations of Live-streaming Oriented Vtubers' Viewer Engagement on Youtube

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Abstract: Niche preference communities on social media are gradually increasing with related research, but there are few studies related to the motivation of viewers of Live-streaming oriented Vtuber. In this study, five motivational factors were set up using time spent as a measure of platform use, and valid data were collected through an interview and survey study of members of Generation Z who watched Vtuber live streams on the Youtube platform. The results obtained from the survey were compared and analyzed, and the main motivation that helps explain Vtuber's live streaming participation was found: Social anxiety. Compared to usual live stream viewers, Vtuber watchers are more prone to social phobia in real life and show a stronger dependence on the host. In addition, the appearance of Vtuber is one of the main motivations to attract viewers. These results provide the main motivations of Vtuber's viewers and lay the foundation for future research.

Keywords: live-streaming oriented Vtuber, motivation, generation Z, social anxiety, social media

1. Introduction

Live streaming, or live video broadcasting through the Internet, has gained worldwide popularity in the past decade [7]. It can be seen as a hybrid involving video content, real-time communication and consumption [9]. Platforms like YouTube and Twitch allow anyone with a webcam and an Internet connection to become a streamer, sharing their life experiences and creative content while engaging with an online audience in real-time[14]. More recently, advances in motion capture and computer animation have empowered streamers to represent themselves with virtual avatars without revealing their real self [18].

A VTuber is an animated virtual avatar that delivers performances in live video streams or recorded videos. The avatar is often voiced by an actor, who is referred to as a Nakanohito (中の 人) in Japanese[10].

VTubers originated in Japan and have rapidly gained international popularity since their first appearance in 2016. VTubers typically stream with half-body 2D avatars, which are created with tools such as Live2D that capture the actor's facial movements and drive the avatar's facial expressions. The motions of other body parts of the avatar can be triggered within such programs using commands sent from desktop computers[10].

The first Vtuber was video oriented, which means there was no implemented communication with the audience. In 2017, the live-streaming-oriented Virtual Youtuber was launched by Japan's

NIJISANJI Company, which became a craze as soon as it was launched. By mid-January 2019, there were more than 10,000 active VTubers around the globe[21], and more than 600 VTubers had over 10,000 followers and had attracted millions of views[22]. The influence of VTubers has quickly grown beyond the Otaku subculture[10].

Vtuber has gained much attention by the users on Youtube platform. The fan base may be anime subculture lovers, live-streaming enthusiasts, or simply followers of hot spots. Live-streaming-oriented Vtuber viewers are an integral part of the live-streaming viewership. In recent years, researchers are increasingly interested in the study of fan behavior and fan culture of the idiosyncrasies of specific groups on social media platforms[15]. Accordingly, we extend the idea to explore the motivations of this particular group of Vtuber viewers.

The purpose of this paper is to explore the unique social motivations of viewers of Vtuber live streaming, and to provide an idea for the innovation of this real-time information dissemination method. It also provides further insight into the use and satisfaction factors of live streaming by live viewers on social platforms

2. Literature Review

2.1. The Motivations of Anime Subculture Viewers

The otaku subculture that mentioned before belong to the anime subculture. Reysen and colleagues point out that belongingness and entertainment was the biggest motivation of anime subculture viewers [13]. According to Reysen, audiences in the anime subculture saw avatars as compensation for the shortcomings of reality [12]. The settings and identities of these avatars can endow them with behaviors that the audience wanted to do in real life but cannot do because of space, time, ethics, and legal constraints. In the process of the avatar implementing this behavior, the audience became dependent on the behavior producer, forming a BIRGing psychology.

BIRGing is when people latch onto the success of their own group's accomplishments, wearing them proudly as their own accomplishments despite having little to nothing to do with the achievement itself [3]. Audiences saw the avatar as the ideal, and honor themselves. Plenty of these audiences come together to form a community that conforms to the theory of social identity.

Social identity theory means people can think of themselves as individuals or as group members [19]. The audience will continue to enhance the sense of belonging and dependence in this group, the reason is people form their own groups in a positive light, downplaying their bad sides and focusing on their upsides [12].

2.2. The Motivations of the Live-streaming Viewers

Skjuve and Brandtzaeg suggested that the three most important motivations for using Facebook live are entertainment, sharing opinions and experiences, and socialization [17]. The content of live streaming such as games, performances, and celebrity shows can provide a great entertaining experience. Research by Xu and Ye argued that extraversion and openness were two major personality traits, and social, information, and entertainment were the three motivations associated with viewers' live streaming use [20]. Based on Hilvert-Bruce et al [6], live-stream engagement was motivated by a desire for social interaction and sense of community, social relations are a key motivational force for live-stream engagement.

2.3. The Motivations of the Viewers Chasing Hot Spot

The hotspot chasers of Vtubers means those who are originally unaware of vtuber and have never paid much attention to the characteristics of vtuber performance. But to follow the Internet hotspots,

they started watching Vtuber's live streams. There is a conformity among this audience. **Conformity** refers to the act of changing one's behavior to match the responses of others[2]. The extant literature has upheld the conceptual independence of each of these motivational factors [4].

3. Methodology

3.1. Model & Method

Based on the social motivation analysis model and results mentioned by Hilvert-Bruce et al, this paper examines the motivators used in their model (Figure 1): Entertainment, Information Seeking, Sense of Community, Social Interactions and Social Anxiety[6]. This model measures engagement on the Youtube platform via considering Time Spent.

The survey methods used were small-scale interviews and large-scale questionnaire. The results obtained from the interviews were seen as the basis for setting the questions of the questionnaire. The participants are all from the Youtube social platform.
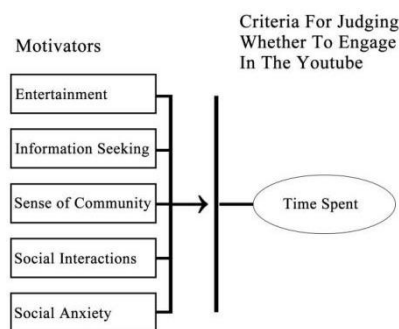

Figure 1

3.2. Participants

The interview sample was selected randomly from the Live-streaming viewers on Youtube platform(n=12). The questionnaire sample was selected from viewers who watched live streams on the Youtube platform. The final valid sample of respondents collected was female (n=78) and male (n=61). Respondents came from 13 different provinces in China.The participants of this survey were all between the ages of 18 and 23. This group of people are called Generation Z.

3.3. Analysis Procedure

In order to make the results as accurate as possible, the questionnaire data were divided according to the categories mentioned in the Model. The same criteria were used to filter the valid questionnaires (Time Spent ≥ 1 hour per week) to ensure that these viewers were indeed engaged viewers of live streams on Youtube. The results of the questionnaire were divided into two groups for analysis. Group A is defined as regular viewers, meaning viewers who watch other types of live streams besides Vtuber live streams. Group B is defined as Vtuber-only viewers, meaning viewers who only watch Vtuber live streams. The results obtained from the two groups were compared to draw conclusions.

Motivators were divided into five areas (Entertainment, Information Seeking, Sense of Community, Social Interaction, and Social Anxiety). These five aspects were factor analyzed as five factors in order to explore the factor that has the highest correlation and most influences motivation.The items contained in the 5 motivators are quantified using the Likert scale.The

viewer's motivation index represents the weakest to strongest motivation on a scale of 1 to 5. In the final motivator exploration, the mean value of the score was used as the determining indicator.

Cronbach's alpha was used to test the reliability of the questionnaire results, and KMO and Bartlett's index were used to test whether the questions set under each motivator were valid for probing that motivator.

3.4. Reliability and Validity

Table.1

Dimensions	Cronbach's alpha	KMO	Bartlett	Dimensions	Cronbach's alpha	KMO	Bartlett
Group A				Group B			
Entertainment	0.854			Entertainment	0.828		
Information Seeking	0.833			Information Seeking	0.908		
Sense of community	0.894			Sense of community	0.842		
Social interactions	0.837			Social interactions	0.776		
Social Anxiety	0.903			Social Anxiety	0.799		
Total	0.897	0.694	0.000	Total	0.880	0.776	0.000

From the Table 1, all the Cronbach's alpha of dimensions in Group A and Group B are over 0.7 thus the reliability test can be past and the data are reliable to use. The KMO index is over 0.6 and Bartlett index is lower than 0.05 thus the data are eligible for exploratory factor tests. In the exploratory factor test, all questions within all dimensions passed the test which means the data are valid to analysis.

4. Results

4.1. Social Motivators as Entertainment

4.1.1. Group A

A total sample size of 52 people was collected, and the average score of motivation intention for the 5 items included in this motivation was 3.3769, with a standard deviation index of 1.027. Among the motivation indexes with a score of 3 or more, 55.77% of users choose to while away time as the active motivation for entertainment, followed closely by social platform dependence with 50% of the respondents.

4.1.2. Group B

A total sample size of 87 people was collected, and the average score of motivation intention for the 5 items included in this motivation was 3.6391, with a standard deviation index of 0.935. The motivation index for giving the item of enjoying live streaming a score of 3 or more is extremely high, at 73.56%, followed only by the option of spending time, which accounts for 71.27%. Among all the items, the motivation index of social platform dependence with a score of 3 or more is the lowest, at 51.73%.

4.2. Social Motivators as Information Seeking

4.2.1. Group A

The average score of motivation intention for the 2 items included in this motivation was 3.5481, with a standard deviation index of 1.108. This data is the highest of Group A's motivation indexes. Among the motivation indexes of these two items, the proportion of those who chose learning new knowledge such as new language or game skills as a motivation was 61.54%. The motivation of learning about different cultures was relatively lower in this motivator.

4.2.2. Group B

The average score of motivation intention for the 2 items included in this motivation was 3.7069, with a standard deviation index of 1.147. 68.97% of total saw learn new knowledge as the main motivation with a difference of 6.90% higher than the number of people whose main motivation is to learn about different circles and cultures.

4.3. Social Motivators as Sense of Community

4.3.1. Group A

The average score of motivation intention for the 4 items included in this motivation was 3.1731, with a standard deviation index of 1.251. The number of people choosing the motivation index of the three items under this motivator is relatively evenly distributed, all fluctuating around 20%, except for the indicator of the motivation to break away from daily life and join a new online community, which fluctuates more, with 46.16% of people see this as the main motivation.

4.3.2. Group B

The average score of motivation intention for the 4 items included in this motivation was 3.5029, with a standard deviation index of 1.056. In the 5-point motivation index, the percentage of out-of-the-ordinary-circle items reached 32.18%, which is 9.19% more than the lowest percentage of gaining identity items under the same motivator. Finding a community of common interests was 70.12% of the motivation indicators with a score of 3 or more.

4.4. Social Motivations as Social Interactions

4.4.1. Group A

The average score of motivation intention for the 4 items included in this motivation was 3.3173, with a standard deviation index of 1.091. In this motivator's item, the number of selectors of the motivator index with strong motivtion reached more than 46%, and the primary item of the motivator was to satisfy the emotional meal substitution (imagining the streamer as a person with whom one has a relationship and thus making a connection).

4.4.2. Group B

The average score of motivation intention for the 4 items included in this motivation was 3.5776, with a standard deviation index of 0.967. Among them, the indicators of 3 items are relatively average, and the number of people who choose indicators with more than 3 points to enjoy the happiness brought by live broadcast that cannot be experienced offline reaches 65.52%, which is the highest motivation indicator in the same group of items.

4.5. Social Motivations as Social Anxiety

4.5.1. Group A

The average score of motivation intention for the 3 items included in this motivation was 3.3782, with a standard deviation index of 1.133. Among the three items, the highest motivation index is that the live broadcast does not generate anxiety in real life, and the number of people choosing this item to relieve the anxiety brought by real life is equal to 51.92%.

4.5.2. Group B

The average score of motivation intention for the 3 items included in this motivation was 3.8429, with a standard deviation index of 0.958. 71.26% said they watch Vtuber to relieve anxiety in real life, and 65.52% said they get a sense of joy here that they expect but don't get at offline events.

5. Discussion

This study explores the motivations of live-streaming oriented Vtuber viewers and regular live streams on the Youtube platform. The mean value mentioned in table 2 shows the motivational tendencies.

From the mean of the motivator's motivation index (Table.2), the five motivators (Entertainment, Information Seeking, Sense of Community, Social Interactions and Social Anxiety) all showed a positive correlation within the motivations. Vtuber-only viewers had higher motivational indicators than regular viewers, and the five motivators in this model showed stronger motivational tendencies. What's more, the data obtained from the basic information showed that gender did not have a significant effect on this exploration of motivation.

The model well presents that Entertainment is a major motivation for watching regular live streams and Vtuber live streams. Within the 5 items of Motivator segmentation for watching live streams, the proportion of time spent as the main motivation is the highest in two groups, and this real-time interaction is one of the main choices for time spent in the Z era. What is slightly different is that viewers who watch regular live streams do not get good data feedback on the part of enjoying the live atmosphere, while viewers who only watch Vtuber live streams will be more willing to pay for the happy atmosphere. In the previous literature review, it was mentioned that fans of anime subculture may share the same entertainment motivation as Vtuber viewers, and this is supported by the scores of appearance-related items in the indicators under Entertainment. This is an important factor in attracting Vtuber viewers.

Information Seeking was the highest motivation choice among the general live viewers, and it also reached the second highest motivation position among Vtuber viewers; this coincides with the aforementioned fact that one of the main motivations for viewing Facebook (A social platform with similar functions to Youtube) is to share opinions and experiences. Comparing the two sets of data shows that Vtuber viewers show a more active desire to learn new knowledge. This may be related to the fact that Vtubers come from different countries with different cultural backgrounds.Different cultural backgrounds bring a sense of novelty to the audience. Like the conformity mentioned above, these people from different cultural backgrounds will seek a common standard, and the premise of forming a common standard is mutual understanding. The overall trend shows that people's preference for social resources is now shifting towards knowledge intake, and Vtubers with more comprehensive language backgrounds and skills are more likely to attract viewers who are concerned about knowledge intake.

Sense of Community presents the lowest motivation index in both live streaming formats when tested using this model, and people's pursuit of identity is not as strong as other motivators. Unlike

regular viewers, those who watch Vtuber live streams show a very high motivation index in the item of hobby-oriented community, which is inconsistent with the aforementioned subculture fans having a very high sense of identity. Young people in the Generation Z no longer need to build their identity through the community where their favorite anchors are located. Unlike regular viewers, Vtuber viewers have a very high motivation index for joining a community of interest, which shows that this group wants to have a regular communication community for the culture they follow, but they do not use that community as the only criterion for their sense of identity. This is directly related to the stronger desire for expression in the members of Generation Z.

From the motivator of Social Interaction in this model, Vtuber live viewers are more dependent on forming social relationships through watching live streams. Among the regular viewers, they are less dependent on live streaming, companionship is not enough as a motivator for watching, and their main purpose in watching live streaming is not to make new friends. Vtuber viewers, on the other hand, like to make new friends and have a strong need for companionship from live streaming, further using Vtubers as an emotional substitute for their real-life lack of access to food. They fantasize that they have a real connection with Vtubers and use this as their main motivation to watch live streams. These viewers look forward to the output of Vtuber, and the new output that Vtuber introduces will create a new point of interest for them. This new point of interest is the basis for their social interactions.

Finally, in terms of Social Anxiety as a motivator, Vtuber live viewers have an extremely strong motivation index. This result was within the envisioned expectation, as the interviewees were found to have a more pronounced tendency to be socially fearful at the time of the interview. This index is a more pronounced motivational index that has not been present in any previous study. However, in the data comparison of this survey, Vtuber's viewers' social anxiety in real life was the most dominant motivation for viewing. More socially anxious individuals appear to use social media with greater frequency [1][8][11][16] and greater intensity (i.e., defined as emotional attachment and use of social media in daily life [6]) than less socially anxious peers. In relation to social interaction data, Vtuber viewers are more likely to lack a sense of companionship in real life, and the lack of long-term companionship can cause an increase in social impairment. Vtubers meet both the emotional and social needs of the viewer, and thus become a powerful motivator. Also, the fact that these respondents who felt a sense of social anxiety were more niche in what they liked in real life, resulting in no one to share and communicate with may also be one of the reasons why they cited avoiding social anxiety as the primary motivation for viewing.

Table.2

Group	Dimensions	Mean	Group	Dimensions	Mean
A	Entertainment	3.3769	B	Entertainment	3.6391
	Information Seeking	3.5481		Information Seeking	3.7069
	Sense of community	3.1731		Sense of community	3.5029
	Social interactions	3.3173		Social interactions	3.5776
	Social Anxiety	3.3782		Social Anxiety	3.8429

6.   Limitations and Suggestions

The survey was completed by Chinese users, so there may be regional specificity in the results. The number of questionnaires collected is small, so the results may be biased. It is recommended that subsequent research studies expand the sample size of the questionnaire, the selected sample should cover the entire Generation Z, and the differences between genders are worth being studied.

7.   Conclusion

This article investigates what social motivations that live-streaming oriented Vtuber viewers have when watching live streams. The results obtained after analyzing the data are unique in that social communication and social anxiety are the strongest viewing motivations for this segment, especially with a very high index at the level of relieving anxiety generated in real life. The social drivers of entertainment, information seeking, and sense of community are weaker, indicating that social communication and social anxiety are the main social motivations of Vtuber viewers.

The results of this study contribute to the innovation of real-time forms of information dissemination expression and can also be used to further explore the use and satisfaction needs of members of Generation Z when using the features of social platforms

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