ASMR Videos and Their Drivers of liking

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Abstract — **ASMR videos on Youtube have become an Internet phenomenon in the last few years. The platforms' comments are a relevant insight of viewer's perceptions. Therefore, we selected keywords as attributes to do a preference mapping on their occurrence in the comments, to find the possible drivers of liking of different categories of ASMR videos. Results show that the words "watch" and "love" are possible drivers of liking and the corresponding categories were "roleplay" and "whispering/soft voice". This may suggest that people tend to like a video more when the ASMRtist creates a personal connection with the viewer.**

I.   INTRODUCTION

The term Autonomous Sensory Meridian Response (ASMR) was coined by Jennifer Allen in 2010 to describe a previously unknown sensory phenomenon. People who experience ASMR describe feeling tingles that start in the back of their head and spread all the way down through the spine. Allen felt that by giving a name to the phenomenon, it would lend legitimacy to the sensation and encourage the discussion surrounding it [1]. ASMR is generally triggered by a combination of visual and auditory stimulation and thus ASMR videos have been the main source for people who want to experience it. The first academic research was published on 2015 and since then, researches into ASMR have been on the growth with academics interested in the motivations behind watching ASMR videos. However, studies into the specific conditions which cause ASMR has been difficult since not all people experience it. Moreover, people who do experience ASMR tend to report it as a sensation heavily influenced by individual differences.

Despite these distinctions, commons themes can be seen when looking at media designed to trigger ASMR. For example, some of these videos depict role play situations, while others are centered around specific sounds, and include little to no talking. Another important thing to be said is that since the videos are on YouTube, the comments are an important source in which people can express their opinion and give insight into their liking or disliking of the video. Therefore, the question that came into our mind when researching ASMR videos was the following: What are the possible drivers of liking different categories of ASMR videos on YouTube?

II.   LITERATURE REVIEW

ASMR's awareness within popular culture is due, mainly, to the sharing of ASMR videos on YouTube [3]; in the platform there are millions of videos' hours in which people entertain their audience with mouth sounds, touching objects and other quiet activities. In reality, ASMR has become a phenomenon also thanks to the nonclinical but significative label "ASMR" which has helped the web's algorithms to detect its increasing of popularity [4]. Regarding the comments behind the videos, according to Raabus, the word "community" comes up a lot and there are few people writing mean comments or trolling [5]. Since 2011, interest in ASMR has risen dramatically and it is still growing [3].

Due to the development into an Internet phenomenon, the scientific community has finally begun to explore and analyze ASMR videos. The first peer-reviewed research that tried to describe and classify ASMR was published in 2015 by Swansea University (UK) [6]. Since then, several studies have been conducted in psychology, neuroscience, media and critical culture's field. Scientists are trying to answer multiple and diverse questions, e.g. why some people cannot experience it, what we can learn from brain's functioning, is ASMR linked with sexuality and so on. However, the main findings that interested us are the reasons of watching these videos and what are the sensory factors that make ASMR videos a pleasing experience.

A. Why people love ASMR

ASMR is a reliable and effective physiologically-rooted experience that can produce therapeutic benefits [5]. The power of it come from the expertise of people in producing triggers that are pleasing to hear and to see, in combination with material components of binaural microphones, headphones and high-quality videos [7]. There are two motivations that drive people to watch this kind of videos: relaxation, and intimacy and care. The former involves the production of a pleasing and relaxing sensation. It could be a "profoundly contemporary form" of helping people who suffer from anxiety, depression, insomnia and other chronic illnesses [4]. Barratt and Davis discovered through a survey that 98% of people see ASMR as an opportunity to relax, 82% agreed that it help them sleep and 70% use them to deal with stress. Result of this study has also showed that the videos can provide a temporary relief for people who suffer from depression. In general, ASMR has a positive effect and feeling [2].

The latter is explained with the sensation of being loved, since ASMRrists act as they were a close person taking care of the viewer "with the caring glances, gentle speech and shooting hand movements [...] we find that comforting" [6]. Sounds and the feeling of being touched create an affective "distant intimacy" in which the mediation of it does not influence its reality. Waldron emphasises that the production of intimacy and care are partially responsible for the cerebral pleasure of ASMR [7]. Moreover, sounds as whispers create an impression of a strongly, affective and unique connection that break the distance between the creator and the viewer. There were suspicions that this connectivity could be involved with sexuality, also because a large part of the videos is made by women; however, Barratt and Davis have found that only 5% of respondents use ASMR as a sexual stimulation [8].

B. What touch us?

ASMR is an experience which touch the viewer using sounds and visual triggers in both tactile and emotional senses; sound is the main responsible for the immersive feeling, however it is not an aural-only experience considering that ASMRtist movements and gaze play a relevant role [4]. Most of the people, according to a survey, are triggered by whispering voices, by audio stimuli such as tapping and other crisp sounds, by watching ASMRtist doing calming tasks, by having close personal attention paid to

them [2]. People prefer an overall atmosphere that is "happy, inviting, relaxed and lacks danger" and they would avoid "too loud, too public and too chaotic" content. The activity to explore the object in detail is relevant to the ASMR experience. This suggest that visual triggers are important for the experience, even though triggers sounds appear to be more vital; these should be perceived as realistic as possible and not be overly scripted and unnatural [9].

III. METHOD

YouTube is the widest database of videos related to ASMR and their comments is one of the evaluators that could contain the drivers of liking of different categories of ASMR. We, therefore, decided to take them as the object of our analysis. The research question was then answered by a preference mapping analysis. As instruments, we used an online YouTube comment scraper in order to scrape the text comments and comment replies; Python was used for text mining and R was used for data analysis.

A. Two steps to access the data

Our assessment is divided in two parts. For the first one we proceeded in the following way: we scraped comments from the first 15 videos that appear for the research "ASMR" on the YouTube research's bar, by applying the filter of relevance. This sample was used as a first quantitative measurement in which we selected the interested attributes that were necessary for the next step. The criterion of the selection was to include the most frequently words appearing on the comments (> 1000) and a selection of the most relevant ones basing on our knowledge of the main ASMR attributes. In addition, we simplified the words for better text mining (e.g. changing 'hearing' to 'hear').

In the second step we selected 100 videos in a random way: we started from the research bar, by writing the word "ASMR" and then we proceeded by selecting random videos appearing on the results' list or in the suggested videos' bar. Each video was inserted in one of the 4 main triggers' categories (whispering/soft voice, touching, focused tasks, role play) and the comments were scraped. All the letters in the comments were transformed to lowercase. We then proceeded to calculate the frequency of appearance of the attributes previously selected as occurrence divided by total comment numbers. After that, we calculated the percentage of likes and the number of views of the 100 selected videos, received so far (19th January 2019).

B. Data Analysis

The data analysis was done in R. For all attributes (including liking% and view amount), a correlation matrix was calculated using Pearson correlation. Principal component analysis (PCA) was done for all keywords (excluding liking% and view amount) to examine the variance and select variables with the most explanatory quality. In this way, the explained variance for the first two components was increased above 60%. After that, multiple factor analysis (MFA) was applied to all samples with the selected keywords plus liking percentage and view amount as quantitative supplements. Video categories were used as labels to visualize the clusters of distribution of samples.

IV. RESULTS

After the comment scraping of the 15 sample videos, we obtained 3.124 words and their frequency which went from 105.904 to the imposed minimum (100). From these words we did a selection to excluded typical words that are needed for the sentence's construction (such as pronouns as "I", articles "the", "it" and so on). Then we joined similar words (e.g. "sound",

"sounding", "sounds"). We could not support all of our final selection to previous works related to ASMR, therefore we had to create our own criterion based on the findings explained in the literature review. Finally, we had a list of 50 words that were used as interested attributes for data analysis.

A. Pearson correlation matrix

The result of Pearson correlation matrix is visualized in Fig. 1. The relevant results were those which had a p value < 0.05. The size of the dot shows the level of significance, and the color of the dot indicates the coefficient value (red: negative; blue: positive; opaque: higher; transparent: lower).
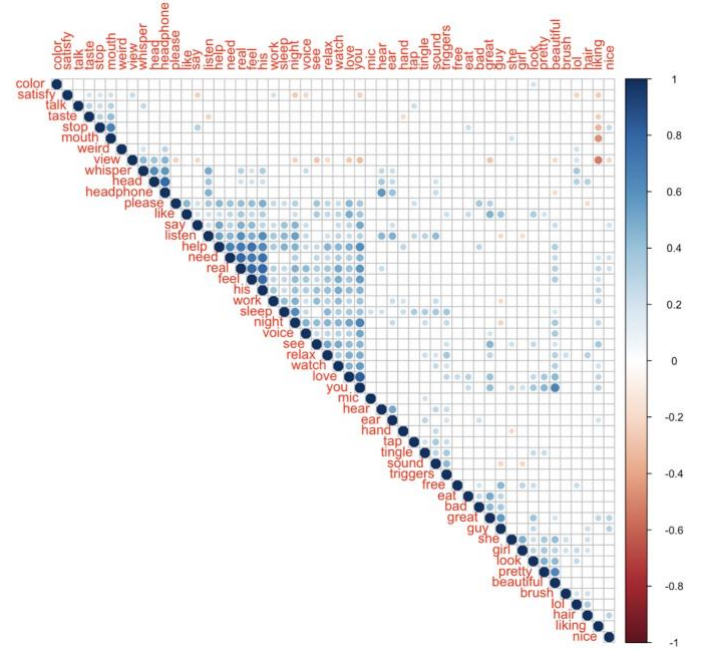

Fig. 1. Pearson correlation matrix of 50 keywords, liking% and view amount

In order to answer our research question, we payed more attention on the correlation of the percentage of likes (attribute "liking") and the amount of views (attribute "view"). Table 1 also shows some other interesting correlations which related to the features of ASMR videos.

TABLE I. SIGNIFICANT CORRELATIONS OF INTERESTED ATTRIBUTES

Attribute	Positive Correlated	Negative Correlated
liking	see	view
view	whisper, head	stop
love	watch, sleep, help, relax, night	
sound	sleep, tap, trigger, tingle	
relax	help, need, feel	
watch	sleep, feel, see, need, help, relax, night	
she/girl	beautiful, pretty	
guy	great, bad, free	

B. PCA variable reduction

The PCA result for all keywords only achieved 26.9% of cumulative explained variance for the first two principal components. In order to explain the distribution in a clearer way, the attribute number was reduced to 5, which achieves 62.9% explained variance for Dim1&2. The remaining attributes are: she, love, sound, eat, watch, sleep.

C. MFA - mapping clusters and preferences

After adding the supplementary variables, the explained variance dropped. In the correlation circle graph (Fig. 2), liking% and view amount is labeled red as supplementary attributes. In the individual factor map (Fig. 3), different categories were labeled with different colors (see figure caption). The slots from the correlation circle can be interpreted corresponding to the slots in the individual factor map.
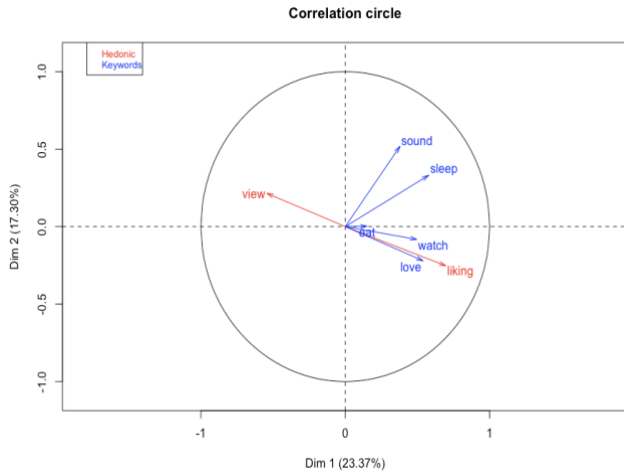

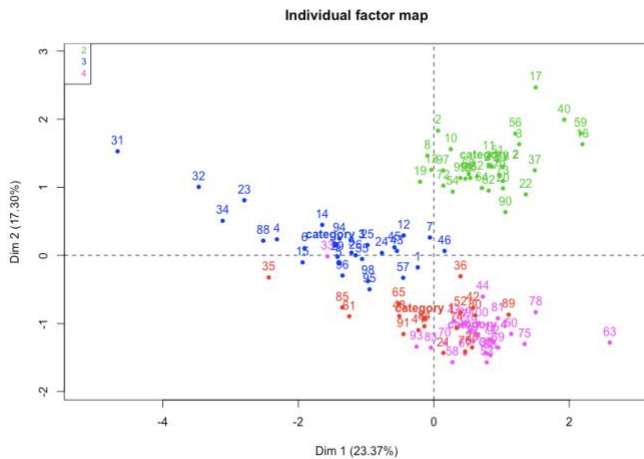Fig. 2.   MFA variable plot (view amount and liking% as hedonic suppliments)

Fig. 3.   MFA individual plot: category-labeled   (Red: whispering/soft voice; Green: touching; Blue. focused tasks; Purple: role play)

V. DISCUSSION

A. Interpretations of results

For the correlation matrix, the most interested results link with the liking%, views and some of the words that are normally associated with ASMR videos. For the liking% we found its positive correlation with "see", which means that people who watch ASMR videos are usually paying attention to visual triggers. Liking% was negative correlated with the amount of views, we suppose that less viewed videos came from ASMRtists with a more homogeneous audience, who might be more encouraging toward the ASMRtist. The amount of views is positively correlated with "whisper, head", and negatively correlated with "stop". Significant words were correlated with interesting attributes: "love" was associated with "watch, sleep help, relax, night", all these words were used in literatures to feature ASMR videos. The positive correlation between

"Watch" and "sleep, feel, see, need, help, relax, night" supported other research results that ASMR are liked because they help viewers to feel relaxed and asleep. Another interesting finding is the correlation which denotes a relevance on the appearance of women since "she/girl" is positively correlated to "pretty, beautiful".

The two plots (Fig. 2&3) show a very clear cluster of the touching/tapping video type, which is more commented with "sound" and "sleep". The videos under the category of roleplay and whispering/soft voice had more comments containing "watch" and "love". Also, they distributed more towards the liking% direction. This could mean that people tend to like a video more when the ASMRtist creates a personal connection by giving the sensation of talking face-to-face since videos under those categories commonly show the entirety of the ASMRtists talking in front of the camera. Therefore, we consider "watch" and "love" related triggers as the drivers of liking, to answer of our research question.

B. Limitations and relevance

We inspected the video No. 31 (about pickle eating) in Fig. 3 and found it had a great amount of views and very low liking%, which is considered an outlier in our sample set. The data from this one video might have highly stretched the variable space especially for view, liking% and "eat". For further research, we suggest increasing the sample size to check the validity of the outlier. Also, the selection of words and video categorization should be improved with more reasoning. Furthermore, the text frequency counting precision should be improved (e.g. the frequency of "head" might have been duplicated with the occurrence of "headphone"). This preliminary research introduces an efficient and explanatory method to better understand ASMR phenomenon. The results provide references for ASMRtists, their audiences and other ASMR researchers.

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