

# A study on sensibility evaluation of thumbnails on online video sharing services for tourism targeting Japanese elderly people

**Hiroki Koza** (Faculty of Advanced Engineering, Nippon Institute of Technology, kozu.hiroki@nit.ac.jp, Japan)

**Kosuke Saito** (Undergraduate School of Advanced Engineering, Nippon Institute of Technology, Japan)

**Shunsuke Nakamura** (Undergraduate School of Advanced Engineering, Nippon Institute of Technology, Japan)

**Riho Kondo** (Miyashiro Social Welfare Council, kondou@syakyou.org, Japan)

**Yasuhiro Tsujimura** (Faculty of Advanced Engineering, Nippon Institute of Technology, tujimr@nit.ac.jp, Japan)

## Abstract

*This study aimed to experimentally assess the sensibility of thumbnails on online video-sharing services for tourism targeting elderly people. A total of 100 males and females aged 60 and above participated in the experiment. There were 29 male participants: 1 in his 60s, 18 in their 70s, and 10 in their 80s. Of the 71 female participants, 19 were in their 60s, 43 in their 70s, and 9 in their 80s. This experiment was conducted at a welfare exchange center located in Saitama Prefecture. Four thumbnails with varying font types, font color, font sizes, and image edging were created and used in various conditions. The assessment included 11 items measuring the participants' sensibility evaluation and 2 items measuring their comprehensive evaluation of thumbnails. Four types of experimental thumbnail conditions were prepared and randomly presented to the participants. In each condition, participants viewed thumbnails (10 seconds), answered measurement items (1 minute 30 seconds), and took a break (20 minutes). The main factors influencing sensibility evaluation were derived by conducting a factor analysis using principal axis factoring and varimax rotation on the results obtained from the experiment. Factor 1 included positive keywords such as "Enjoyable" and "Exciting." Therefore, factor 1 was named "Curiosity." Factor 2 included negative keywords such as "Unpleasant" and "Boring." Therefore, factor 2 was named "Disgust." Furthermore, in analyses using factor scores, participants' sensitivity evaluation of thumbnails was influenced by gender. Therefore, it is important to consider gender differences when designing thumbnails based on sensitivity evaluations.*

## Keywords

*thumbnail, online video sharing, tourism, sensibility evaluation, elderly people*

## 1. Introduction

In recent years, local governments in Japan have been using "Tourism PR Videos" to promote the appeal of tourist destinations [MIC, 2023; Yokokawa, 2021; Yokokawa, 2022]. These Tourism PR Videos are distributed across video sharing sites, which are more effective in terms of reach and cost than are traditional TV commercials [Takaya, 2008; Suzuki, 2017]. Video sharing sites such as YouTube maintain a high usage rate among all generations compared to other Social Networking Service (SNS) platforms [MIC, 2021]. Therefore, Tourism PR Videos on video sharing sites are expected to be viewed by elder generations. Video sharing sites attract users' attention, who decide which video to watch by viewing their thumbnails, comprising textual and visual information indicative of the video content. Therefore, it is important to create thumbnails that are attractive to users. Several previous studies have been conducted on video sharing sites such as YouTube. First, there is research on the adverse effects of video-sharing sites. Sano et al. [2020] reported that media use for more than 3 hours affected middle and high school students' sleep, eating, and physical activity. In addition, Coker et al. [2017] pointed out that viewing violent content may lead to aggressive behavior in children. By contrast, there are many studies in which video-

sharing sites are utilized in many aspects. Prior research has evaluated video sharing sites as educational tools. Moghavvemi et al. [2018] reported that using YouTube as a complementary learning tool was effective in improving students' learning experience. Yoshioka et al. [2023] investigated the educational effects of creating and viewing YouTube videos related to toothbrushing habits. Maziriri et al. [2020] examined students' perceptions of their use of YouTube as an educational tool for learning and tutorials. Studies have also been conducted on using video sharing sites to disseminate information. This is common in the medical field. Li et al. [2019] conducted a study using YouTube as a source of information on food poisoning. YouTube has also been used to disseminate information about self-care in otorhinolaryngology [Takahashi et al., 2023] and about serious diseases such as abdominal aortic aneurysm [Radonjic et al., 2020]. More recently, it has been used to disseminate information about the COVID-19 pandemic [Khatri et al., 2020; Li et al., 2020]. Other studies have investigated user reactions to video content. Sakai and Ito [2021] focused on extracting features of user comments on video sites. Additionally, Endo and Kato [2022] examined the impact of differences in the insertion timing of video advertisements on users from a marketing perspective. Furthermore, studies have examined the impact of thumbnails on video sharing sites, which is also the focus of the present study. Sato and Tamura [2019] categorized thumbnails into themes such as "envious" and "cute." Then, they derived user preferences for each piece based on "differ-

ences in font size” and “presence or absence of background” in thumbnails, targeting young people. Koike and Hagiwara [2022] proposed a system to support the generation of video title styles preferred by users on YouTube. Additionally, several “how-to books” [For example, Koyama, 2023; Sakai, 2021; Sugawara, 2020; Sugawara, 2023] have been published for video producers including thumbnails. However, few studies have investigated thumbnail production targeting “Tourism PR Videos” or “elderly people.” Moreover, the content of “how-to books” is often biased toward the authors’ experience and subjectivity. Given that video sharing sites maintain high viewership rates even among elder generations, it will be effective to create thumbnails that appeal to not only younger but also elder generations. Therefore, this study aims to experimentally assess the sensibility of thumbnails on online video sharing services for tourism targeting elderly people. A “Tourism PR Video” highlighting the characteristics derived from this research will be produced and distributed in the hope that it will contribute to the revitalization of tourism in each region.

**2. Research Method**

**2.1 Research participants**

A total of 100 research participants over 60 years old in order to apply it as statistical data. There were 29 male participants in total, 1 in his 60s, 18 in their 70s, and 10 in their 80s. Of the 71 female participants, 19 were in their 60s, 43 in their 70s, and 9 in their 80s. All of them had no healthy problem in their daily lives.

**2.2 Evaluation questionnaire**

The evaluation questionnaire was formulated through working group discussions focusing on authors and professional YouTubers. Figure 1 shows the work sheet for thumbnails

evaluation. These include 5 questionnaire items (1-5) on basic participant information, the following 11 questionnaire items (6-16) on the participant’s sensibility evaluation of thumbnails, and the last 2 questionnaire items (17 and 18) on the participant’s comprehensive evaluation of thumbnails. The sensibility evaluation items for thumbnails were rated on a five-point scale [Nagamachi, 1989]. The measurement items were displayed on the PC screen, and participants responded using Google Forms.

**2.3 Experimental conditions**

In this experiment, four distinctive types of thumbnails were created and used in varying conditions, as shown Table 1. The thumbnail characteristics are influenced by factors such as font type, font color, font size, and edging of the image. In terms of font types, Gothic fonts have a more “powerful” impression than Mincho fonts, and Mincho fonts have a more “calm” appearance than Gothic fonts [Hira and Tsuji, 2005]. Moreover, bright font colors like red give the impression of being “gorgeous” while shades of white appear to be “simple” [Inaba, 2008]. A large font size gives the impression of “powerful” and a small font size gives the impression of “calm” [Sagawa and Kurakata, 2013]. Effects can also be added to the background image to make it even more “gorgeous” [Yagi, 2022]. This experiment used a within-participants design.





**2.4 Experimental procedure**

This experiment was conducted at a welfare exchange center located in Saitama Prefecture, where various events are held to support local and welfare activities, attracting several visitors. After an experimental environment was set up, visitors were invited to participate. The four conditions were implemented randomly. Figure 2 depicts the experimental procedure: in each condition, participants viewed thumbnails (10 seconds),

|   |  |
|---|--|
| <p>Item No. <u>Basic participant information</u></p> <p>1 Age:</p> <p>2 Gender:<br/>•male •femail •neither</p> <p>3 Have you seen YouTube?:<br/>•Yes •No</p> <p>4 Do you like traveling?:<br/>•Yes •No</p> <p>5 Have you ever traveled to Kyoto?:<br/>•Yes •No</p> <p><u>What do you think of the thumbnails?</u></p> <p style="text-align: center;">Funny</p> <p>6 Strongly agree <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Strongly disagree</p> <p style="text-align: center;">Unpleasant</p> <p>7 Strongly agree <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Strongly disagree</p> <p style="text-align: center;">Exciting</p> <p>8 Strongly agree <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Strongly disagree</p> <p style="text-align: center;">Fashionable</p> <p>9 Strongly agree <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Strongly disagree</p> | <p>Item No. <u>Enjoyable</u></p> <p>10 Strongly agree <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Strongly disagree</p> <p style="text-align: center;">Cute</p> <p>11 Strongly agree <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Strongly disagree</p> <p style="text-align: center;">Boring</p> <p>12 Strongly agree <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Strongly disagree</p> <p style="text-align: center;">Sad</p> <p>13 Strongly agree <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Strongly disagree</p> <p style="text-align: center;">Soothing</p> <p>14 Strongly agree <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Strongly disagree</p> <p style="text-align: center;">Stimulating</p> <p>15 Strongly agree <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Strongly disagree</p> <p style="text-align: center;">Desirable</p> <p>16 Strongly agree <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Strongly disagree</p> <p><u>Can you convey the content of the video?</u></p> <p>17 Strongly agree <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Strongly disagree</p> <p><u>Would you like to watch this video?</u></p> <p>18 Strongly agree <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Strongly disagree</p> |
|---|--|

Figure 1: Evaluation items

Table 1: Experimental conditions

| Conditions | Characteristics       | Design composition |            |           |                 | Image   |
|------------|-----------------------|--------------------|------------|-----------|-----------------|---|
|            |                       | Font type          | Font color | Font size | Edging of image |   |
| I          | Powerful and Gorgeous | Gothic             | Bright     | Big       | Draw            |  |
| II         | Calm and Gorgeous     | Mincho             | Bright     | Small     | Draw            |  |
| III        | Calm and Simple       | Mincho             | Whitish    | Small     | None            |  |
| IV         | Powerful and Simple   | Gothic             | Whitish    | Big       | None            |  |

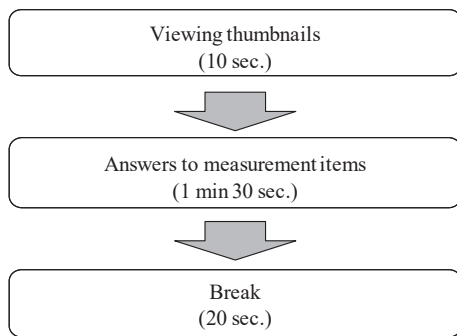


Figure 2: Experimental procedure



Figure 3: Experimental setup

answered measurement items (1 minute 30 seconds), and took a break (20 minutes). A 25-inch monitor was used to display the thumbnails. The experiment was conducted on weekdays from 10:00 to 14:00 in May and June 2023. This study was held in accordance with the “Research Ethics Review Self-Check Sheet for Human Subjects” at the Nippon Institute of Technology. In addition, participants provided their informed consent prior to the experiment and were assured that they could withdraw from the experiment for any reason. Figure 3 depicts the experimental setup.

### 2.5 Data analysing

This section describes the data analysis methods. As shown in Table 2, a value between 1 (“Strongly disagree”) and 5 (“Strongly agree”) was assigned to the answers. Each analysis in this study was then performed using these assigned numerical data employing SPSS version 28.

Table 2: Data converted into numerical data

| Result                     | Numerical data |
|----------------------------|----------------|
| Strongly agree             | 5              |
| Slightly agree             | 4              |
| Neither agree nor disagree | 3              |
| Slightly disagree          | 2              |
| Strongly disagree          | 1              |

## 3. Results and discussion

### 3.1 Comparison of each condition for sensibility evaluation

This section describes the results of the relationship between the sensibility evaluation (question items: 6-16) and each condition. The relationship between each item and the condition of all participants is shown in Figure 4. Questionnaire items 6, 8, 9, and 10 were significantly higher in conditions I (Powerful and Gorgeous) and II (Calm and Gorgeous) than in other conditions, while questionnaire items 11 and 15 were significantly higher in condition I (Powerful and Gorgeous) than in other conditions. Questionnaire item 14 was significantly higher in conditions II (Calm and Gorgeous) and III (Calm and Simple) than in other conditions, while questionnaire item 7 was significantly lower in condition II (Calm and Gorgeous) than in other conditions. The comparison results using Bonferroni’s multiple comparisons for each questionnaire item and condition are shown in Table 3.

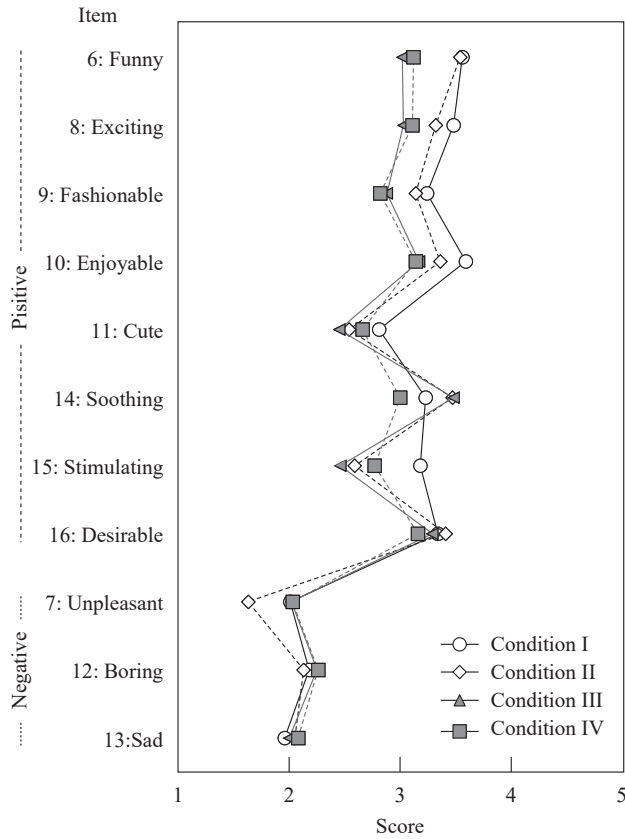


Figure 4: Comparison of scores

**3.2 Summary of comprehensive evaluation**

This section summarizes the questionnaire items on comprehensive evaluation (17 and 18) in each condition. The relationship between each condition and the difficulty level of imagining the video content is depicted in Table 4, with many responses of slightly agree, neither agree nor disagree, and slightly disagree being observed across all conditions. The relationship between each condition and desire to view the video is depicted in Table 5, with many responses of slightly agree

Table 4: Relationship between each condition and the difficulty level of imagining

| Condition | Strongly agree | Slightly agree | Neither agree nor disagree | Slightly disagree | Strongly disagree |
|-----------|----------------|----------------|----------------------------|-------------------|-------------------|
| A         | 16 (16 %)      | 26 (26 %)      | 29 (29 %)                  | 19 (19 %)         | 10 (10 %)         |
| B         | 17 (17 %)      | 29 (29 %)      | 29 (29 %)                  | 17 (17 %)         | 8 (8 %)           |
| C         | 11 (11 %)      | 22 (22 %)      | 34 (34 %)                  | 23 (23 %)         | 10 (10 %)         |
| D         | 20 (20 %)      | 24 (24 %)      | 27 (27 %)                  | 22 (22 %)         | 7 (7 %)           |

Table 5: Relationship between each condition and the desire to view videos

| Condition | Strongly agree | Slightly agree | Neither agree nor disagree | Slightly disagree | Strongly disagree |
|-----------|----------------|----------------|----------------------------|-------------------|-------------------|
| A         | 35 (35 %)      | 27 (27 %)      | 21 (21 %)                  | 10 (10 %)         | 7 (7 %)           |
| B         | 36 (36 %)      | 34 (34 %)      | 16 (16 %)                  | 9 (9 %)           | 5 (5 %)           |
| C         | 30 (30 %)      | 27 (27 %)      | 17 (17 %)                  | 19 (19 %)         | 7 (7 %)           |
| D         | 31 (31 %)      | 27 (27 %)      | 19 (19 %)                  | 16 (16 %)         | 7 (7 %)           |

Table 3: Results of multiple comparisons of scores for each condition and questionnaire item

| Item            | Combinations of conditions with significant differences ( $\alpha = 0.05$ ) |
|-----------------|---|
| 6: Funny        | 1-3, 1-4, 2-3 and 2-4   |
| 8: Exciting     | 1-3 and 1-4   |
| 9: Fashionable  | 1-4 and 2-4   |
| 10: Enjoyable   | 1-3 and 1-4   |
| 11: Cute        | 1-3   |
| 14: Soothing    | 2-4 and 3-4   |
| 15: Stimulating | 1-2, 1-3 and 1-4  |
| 16: Desirable   | No significant differences  |
| 7: Unpleasant   | 1-2, 2-3 and 2-4  |
| 12: Boring      | No significant differences  |
| 13: Sad         | No significant differences  |

being observed across all condition.

**3.3 Derivation of factors and characteristics for sensibility of thumbnails**

This session describes the main factors influencing sensibility evaluation that were derived by conducting a factor analysis on the evaluation results obtained from the experiment (items 6-16).

**3.3.1 Derivation of factors for the sensibility of thumbnails**

This section describes the characteristics of the derived factors in sensibility evaluation. The main factors influencing sensibility evaluation were derived by conducting a factor analysis using principal axis factoring and varimax rotation on the evaluation results obtained from the experiment (questionnaire items 6-16). The results obtained from the analysis and scree plot, are presented in Table 6 and Figure 5, respectively, which reveal the estimation of two factors that comprehen-

Table 6: Results of the factor analysis

| Components | Eigenvalue | Variance (%) | Cumulative variance (%) |
|------------|------------|--------------|-------------------------|
| 1          | 4.900      | 44.544       | 44.544                  |
| 2          | 1.430      | 13.002       | 57.547                  |
| 3          | 0.802      | 7.293        | 64.840                  |
| 4          | 0.788      | 7.161        | 72.001                  |
| 5          | 0.684      | 6.214        | 78.215                  |
| 6          | 0.565      | 5.137        | 83.352                  |
| 7          | 0.484      | 4.404        | 87.756                  |
| 8          | 0.421      | 3.825        | 91.582                  |
| 9          | 0.348      | 3.162        | 94.744                  |
| 10         | 0.302      | 2.748        | 97.492                  |
| 11         | 0.276      | 2.508        | 100.000                 |

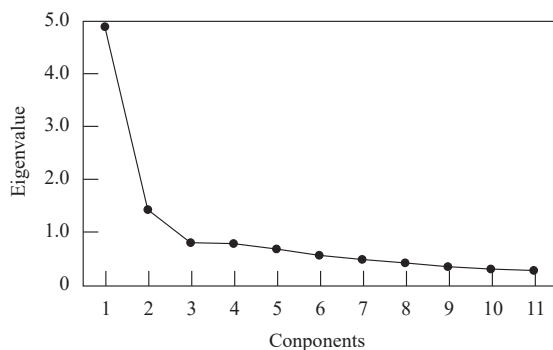


Figure 5: Scree plot derived from the factor

sively evaluate the sensibility of thumbnails, considering an eigenvalue of 1.0 or more, a cumulative contribution rate of 0.5 or more, and the difference in eigenvalues. The number of factors was estimated by focusing on the flat points of the scree plot with reference to a previous study [Kozu et al., 2020; 2023]. Additionally, the two factors derived from all conditions were named. The results of the factor scores' coefficient matrix

Table 7: Results of factor scores' coefficient matrix

| Questins            | Factors |        |  | Named     |
|---------------------|---------|--------|--|-----------|
|                     | 1       | 2      |  |           |
| Item 5 Enjoyable    | 0.817   | -0.190 |  | Curiosity |
| Item 3 Exciting     | 0.789   | -0.150 |  |           |
| Item 11 Desirable   | 0.772   | -0.186 |  |           |
| Item 4 Fashionable  | 0.770   | -0.038 |  |           |
| Item 6 Cute         | 0.695   | 0.054  |  |           |
| Item 1 Funny        | 0.634   | -0.186 |  |           |
| Item 9 Soothing     | 0.564   | -0.252 |  |           |
| Item 10 Stimulating | 0.541   | -0.019 |  | Disgust   |
| Item 2 Unpleasant   | -0.191  | 0.754  |  |           |
| Item 7 Boring       | -0.368  | 0.506  |  |           |
| Item 8 Sad          | 0.060   | 0.374  |  |           |

Note: Cronbach's alpha = Factor 1:0.89; Factor 2:0.56.

for all thumbnails are presented in Table 7. As shown in Table 7, factor 1 affected items 5, 3, 11, 4, 6, 1, 9 and 10. These questionnaire items included positive keywords such as "Enjoyable" and "Exciting." Therefore, factor 1 was named "Curiosity." Factor 2 affected questionnaire items 2, 7, and 8, which included negative keywords such as "Unpleasant" and "Boring." Therefore, factor 2 was named "Disgust."

### 3.3.2 Characteristics of the relationship between factors for all participants

This section describes the characteristic of each factor in each condition. They were examined using the factor scores derived from the factor analysis in section 3.3.1. Figure 6 reveals the characteristics of each factor combination, demonstrating no significant factor scores.

### 3.3.3 Characteristics of the relationship between each factor and gender

This section describes the characteristics of the relationship between each factor and gender in each condition. This relationship was examined using the participants' factor score. The characteristic contents are depicted in Figure 7. Figure 7 (a) reveals that 19 out of 29 (65.5 %) males in condition I had strong factor scores for "Curiosity." Figure 7 (b) reveals that 46 out of 71 (64.8 %) females in condition II had weak factor scores for "Disgust." Figure 7 (d) shows that under condition IV, 19 out of 29 (65.5 %) males had strong factor scores for "Disgust," and 43 out of 71 (60.6 %) females had weak factor scores for "Curiosity."

### 3.3.4 Characteristics of the relationship between each factor and the difficulty level of imagining video content

This section describes the characteristics of the relationship between each factor and the difficulty level of imagining the video content in each condition. Participants were classified according to their difficulty level of imagining video content based on the responses of strongly agree and slightly agree into an easy-to-imagine group. Those whose responses were neither agree nor disagree, slightly disagree, or strongly disagree were classified as the unimaginable group. The relationship between each factor and gender was examined using the factor score of the participants. The characteristic tendencies are shown in Figure 8. While they were not revealed for participants in the easy-to-imagine group, they were revealed for participants in the unimaginable group. Figure 8 (a) shows that 35 out of 58 (60.4 %) participants in condition I of the unimaginable group had strong factor scores for "Disgust." Figure 8 (c) shows that 43 out of 67 (64.2 %) participants in condition III of the unimaginable group had strong factor scores for "Disgust."

## 4. Conclusion

This study aimed to experimentally assess the sensibility of thumbnails on online video sharing services for tourism, targeting elderly people. First, as shown in section 3.3.1, in

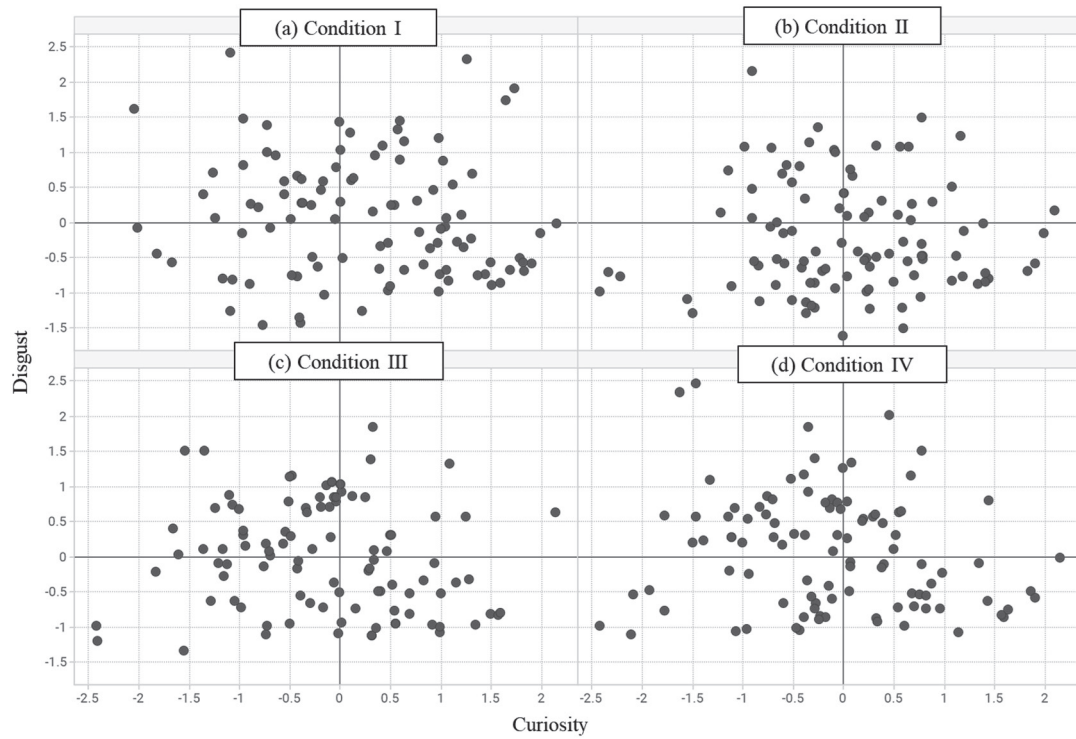


Figure 6: Relationship between “curiosity” and “disgust” in each condition

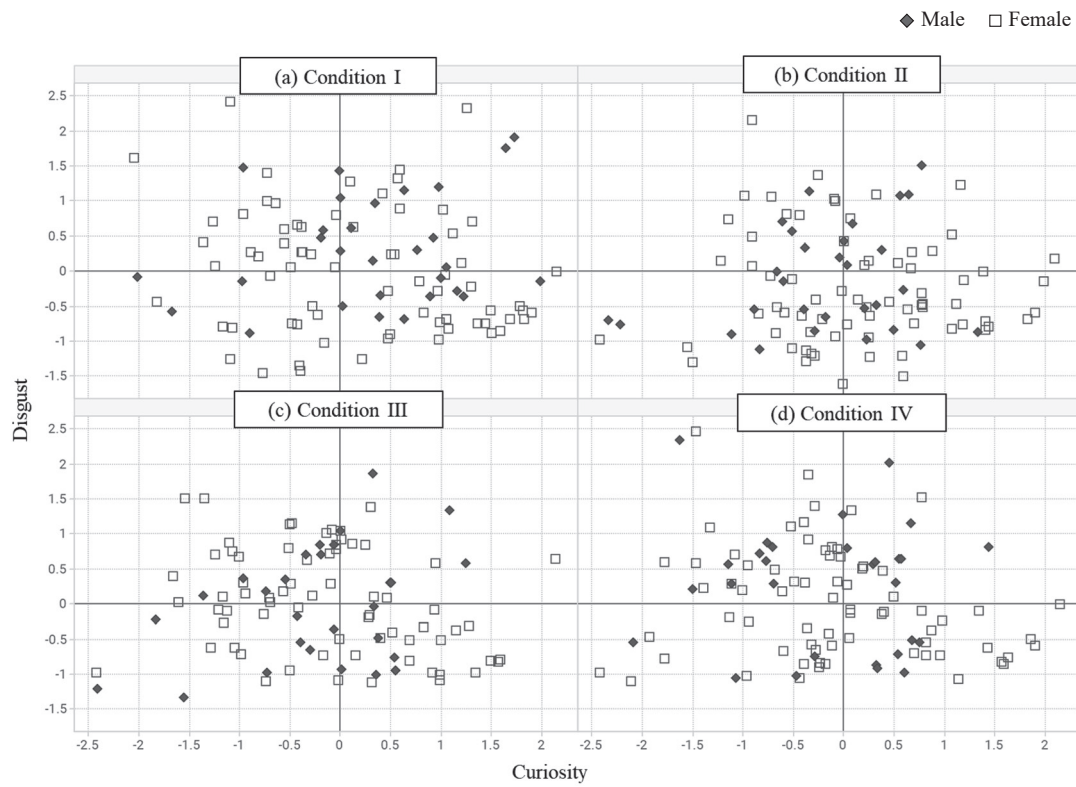


Figure 7: Relationship between “curiosity” and “disgust” across genders for each

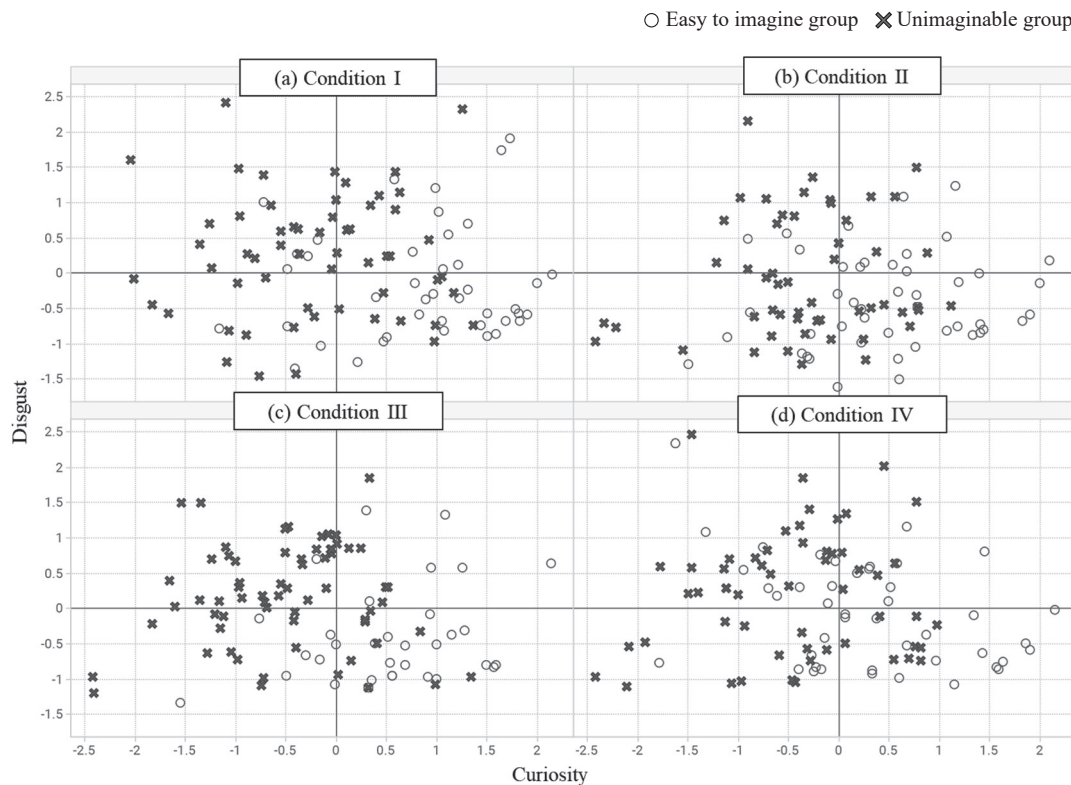


Figure 8: Relationship between “curiosity” and “disgust” with regard to difficulty level of imagining video content for each condition

the factor analysis, “Curiosity” and “Disgust” were identified as the first and second most important factors. This implies that it is important for thumbnails to be designed in a way that invokes curiosity to convey their appeal to users. It can be inferred that the thumbnail designs depicted, which were not suited to the content, left a negative impression on users. Next, as shown in section 3.3.2, the characteristics of “Curiosity” and “Disgust” in each thumbnail were examined using factor scores. However, no significant characteristics were observed. Therefore, as shown in section 3.3.3, the characteristics of “Curiosity” and “Disgust” in each thumbnail were examined across gender. Among male participants, the thumbnail of condition I (Powerful and Gorgeous) revealed a tendency to be more curious, while, among female participants, the thumbnail of condition II (Calm and Gorgeous) showed a tendency to be less disgusted. In addition, male participants had a strong sense of disgust and female participants had a low sense of curiosity for the thumbnail of condition IV (Powerful and Simple). Thus, enhanced thumbnail design can improve the viewership of “Tourism PR Videos” by considering these gender differences. A previous study on the evaluation of thumbnails on video sharing sites aimed at young people found a gender difference, with males placing more emphasis on images and female placing more emphasis on text [Sato and Tamura, 2019]. A similar trend was observed in the elderly people. Additionally, as shown in section 3.3.4, the characteristics of “Curiosity” and “Disgust” in each thumbnail were examined in terms of

the difficulty level of imagining video content. In the unimaginable group, the thumbnail of conditions I (Powerful and Gorgeous) and III (Calm and Simple) reflected a tendency of participants in this group to be more disgusted. The thumbnail of condition I (Powerful and Gorgeous) consists of a design that emphasizes the following elements: Gothic font type, bright font color, big font size, and drawn edges of the image. Therefore, it can be inferred that these features are not suitable for an image depicting travel. However, the thumbnail of condition III (Calm and Simple) consists of a design utilizing the following elements: Mincho font type, whitish font color, small font size, and a lack of coordinated edging of the image. This may be attributed to the inability to enjoy traveling. Additionally, considering sensibility evaluation, gender, and the level of difficulty of imagining video content, it is possible to show the relationship depicted in Figure 9.

To conclude, a summary of this study and our proposals are as follows:

- It is important for thumbnails to reflect a design that evokes curiosity; such design elements would need to emphasize enjoyable, exciting, and desirable.
- It is important to consider gender differences when designing thumbnails based on sensitivity evaluations.
- Users in the unimaginable group had a negative impression of thumbnail designs with strong or weak emphasis. Therefore, it is important to consider thumbnail designs with

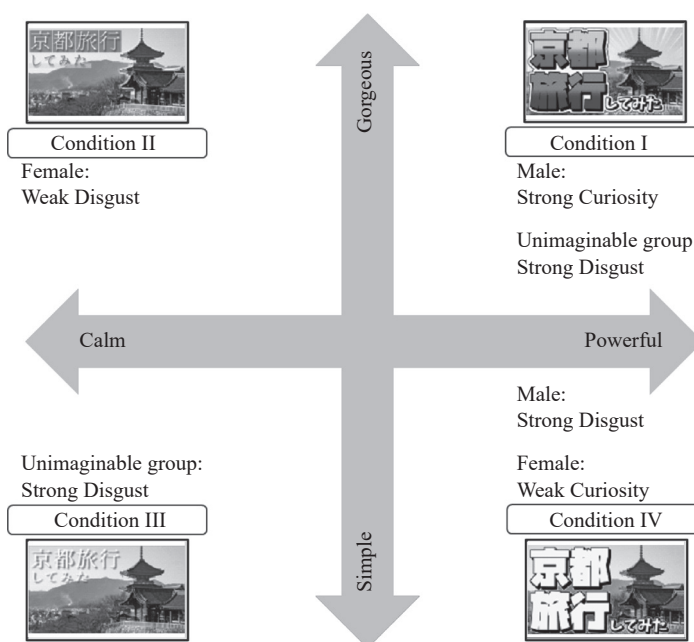


Figure 9: Comparison of sensibility evaluation for each thumbnail

strong or weak emphasis.

As a limitation of this study, since this experiment targeted elderly people, it was conducted using a simple experimental design with few conditions and questions. Therefore, it is difficult to generalize the findings and the discussion is, thus, limited. In the future, we will consider experimental designs incorporated with other conditional questions and conduct comparisons with younger people.

#### Acknowledgments

We want to thank the staff at the welfare exchange center located in Saitama Prefecture for cooperating with us regarding the experiment.

#### References

- Coker, T. R., Elliott, M. N., Schwebel, D. C., Windle, M., Toomey, S. L., Tortolero, S. R., Hertz, M. F., Peskin, M. F., and Schuster, M. A. (2015). Media violence exposure and physical aggression in fifth-grade children. *Academic Pediatrics*, Vol. 5, No. 1, 82-88.
- Endo, M. and Kato, T. (2022). Effects of insertion timing of video advertisements on memory and purchase intent for YouTube. *Japan Marketing Review*, Vol. 3 No. 1 28-36. (in Japanese)
- Hira, T. and Tsuji, M. (2005). A study of typeface impression: Consideration from the aspect of solid mechanics. *Research reports of Nara National College of Technology*, No. 41, 15-20. (in Japanese)
- Inaba, T. (2008). Impression analysis technique of color, feel of material and design. *Journal of the Image Society of Japan*, Vol. 47, No.3, 174-182. (in Japanese)
- Khatri, P., Singh, S. R., Belani, N. K., Yeonga, Y. L., Lohand, R., Lim, Y. W., and Teo, Z. W. (2020). YouTube as source of information on 2019 novel coronavirus outbreak: A cross sectional study of English and Mandarin content. *Travel Medicine and Infectious Disease*, Vol. 35, 101636.
- Koza, H., Maruyama, Y., Yuyama, T., Hasegawa, T., and Tsujimura, Y. (2020). A study on factors attracting customers to tourist facilities during the COVID-19 pandemic. *Journal of Global Tourism Research*, Vol. 5, No. 2, 117-126.
- Koike, R. and Hagiwara, M. (2022). A support system for generating YouTube titles using style transfer. *Journal of Japan Society of Kansei Engineering*, Vol. 21, No.49-55. (in Japanese)
- Koyama, T. (2023). *YouTube daizen* [YouTube Encyclopedia]. Kadokawa. (in Japanese)
- Koza, H., Saito, S., and Tsujimura, Y. (2023). A study of factors influencing expectation and satisfaction regarding hospital care among outpatients in a compact city. *Journal of Global Tourism Research*, Vol. 8, No. 1, 27-32.
- Li, M., Yan, S., Yang, D., Li, B., and Cui, W. (2019). YouTube™ as a source of information on food poisoning. *BMC Public Health*, Vol. 19, 952.
- Li, H. O. Y., Bailey, A., Huynh, D., and Chan, J. (2020). YouTube as a source of information on COVID-19: A pandemic of misinformation? *BMJ Global Health*, Vol. 5, No. 5, e002604.
- Moghavvemi, S., Sulaiman, A., Jaafar, N. I., and Kasem, N. (2018). Social media as a complementary learning tool for teaching and learning: The case of youtube. *The International Journal of Management Education*, Vol. 16, No. 1, 37-42.
- Maziriri, E. T., Gapa, P., and Chuchu, T. (2020). Student perceptions towards the use of YouTube as an educational tool for learning and tutorials. *International Journal of Instruc-*



- tion, Vol. 13, No. 2, 119-138.
- Ministry of Internal Affairs and Communications (2021). *Release of FY2020 survey report on usage time of information and communications media and information behavior* (Retrieved October 16, 2022 from [https://www.soumu.go.jp/main\\_sosiki/joho\\_tsusin/eng/pressrelease/2021/8/25\\_02.html](https://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/pressrelease/2021/8/25_02.html)).
- Ministry of Internal Affairs and Communications (2023). *About demonstration project for disseminating regional information using video content* (Retrieved October 12, 2023 from [https://www.soumu.go.jp/main\\_content/000900494.pdf](https://www.soumu.go.jp/main_content/000900494.pdf)). (in Japanese)
- Nagamachi, M. (1989). *Kansei kougaku* [Kansei Engineering]. Kaibundo. (in Japanese)
- Radonjic, A., Hing, N. N. F., Harlock, J., and Naji., F. (2020). YouTube as a source of patient information for abdominal aortic aneurysms. *Journal of Vascular Surgery Radonjic*, Vol. 71, No. 2, 637-644.
- Sagawa, K. and Kutatake, K. (2013). Estimation of legible font size for elderly people: Accessible design of characters in signs and displays and its standardization. *Synthesiology*, Vol. 6, No. 1, 34-44. (in Japanese)
- Sano, M., Iwasa, H., Nakayama, C., Moriyama, N., Katsuyama, K., and Yasumura, S. (2020). Relationship between prolonged media usage and lifestyle habits among junior and senior high school students. *Japanese Journal of Public Health*, Vol. 67, No. 6, 380-389. (in Japanese)
- Suzuki, S. and Kurata, Y. (2017). Trend and issues of tourism related videos in YouTube. *Forum on Information Technology*, Vol. 16, No. 3, 421-422. (in Japanese)
- Sato, R. and Tamura, R. (2019). Study on thumbnail images and titles selected by viewers in YouTuber's videos. *Journal of Japan Society of Kansei Engineering*, Vol. 18, No. 1 139-145. (in Japanese)
- Sugawara, S. (2020). *Bijinesu YouTube nyūmon* [Introduction to business YouTube]. Standards.
- Sakai, D. (2021). *Bijinesu YouTube deure!* [Sell your business on YouTube!]. Standards. (in Japanese)
- Sakai, Y. and Ito, E. (2021). Feature extraction from user comments on YouTube. JSAI (The Japanese Society for Artificial Intelligence) Technical Report, SIG-KBS, 124, 17-22. (in Japanese)
- Sugawara, S. (2023). *Shōto dōga bijinesu kakumei!* [Short video business revolution!]. Standards. (in Japanese)
- Takaya, K. (2008). The advantage of consumer-generated media in transmitting tourism information. *Journal of Japan Information-Culturology Society*, Vol. 15, No. 2, 49-56. (in Japanese)
- Takahashi, T., Yagi, C., Morita, Y., Watanabe, J., and Horii, A. (2023). Medical information transmission of otolaryngology-head and neck surgery via YouTube. *Nippon Jibiinkoka Tokeibugeka Gakkai Kaiho*, Vol. 126, 128-133. (in Japanese)
- Yokokawa, J. (2021). A study on the significance and effects of local tourism PR videos: In case of the efforts of Ehime prefecture. *Proceedings of JITR Annual Conference*, 309-312. (in Japanese)
- Yagi, S. (2022). *Dōga haishin no tameno zero kara waku Premiere Pro* [Premiere Pro for video distribution from scratch]. Shuwa Systems. (in Japanese)
- Yokokawa, J. (2022). A study on the use of tourism PR video in the region: In case of the efforts of Mie and Kagawa prefecture. *Proceedings of JITR Annual Conference*, 283-286. (in Japanese)
- Yoshioka, M., Nakae, H., Fukui, M., Yanagisawa, S., Sogawa, Y., Sakamoto, H., and Hinode, D. (2023). Production of YouTube videos linked to toothbrushing habits and verification of educational effects. *Journal of Dental Health*, Vol. 73, No. 3, 205-213. (in Japanese)

---

Received January 26, 2024


Revised March 9, 2024

Accepted March 18, 2024

Published April 30, 2024



Copyright © 2024 International Society for Tourism Research, Published by Union Press. This article is licensed under a Creative Commons [Attribution-NonCommercial-NoDerivatives 4.0 International] license.

 [https://doi.org/10.37020/jgtr.9.1\\_13](https://doi.org/10.37020/jgtr.9.1_13)