

The Impact of Reference Information and Psychological Factors on Media Viewing Behavior: An Experimental Study

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In this study, we examined the factors influencing viewing preferences among Japanese university students using experimental methods focusing on television and video streaming services (YouTube). Specifically, we presented participants with fictional program content accompanied by a pre-announcement and experimentally inquired about their viewing preferences. We analyzed the impacts of media platform content tone, reference information, gender, and television viewing time on viewing preferences. Our statistical analysis yielded three key findings. First, we determined that reference information enhances viewing preferences for participants who watch television for longer periods, but only when the content tone aligns with the positive or negative attributes of the reference information. Second, we found no significant differences in viewing preferences based on media platform within the scope of this study. Third, we observed no differences in viewing preferences based on gender within the study's scope. These findings offer fundamental insights into information dissemination methods relevant to practical applications such as crisis management and suggest avenues for future research.

Key Words : Media Viewing Preference, Reference Information, Crisis Management, Public Relations

1. INTRODUCTION

In this study, we identify the factors influencing viewing preferences for television and video streaming services (e.g., YouTube) among Japanese university students through experimental methods. Specifically, we presented participants with fictitious program content, providing them with pre-announcement texts of around 100 to 200 characters, and experimentally assessed their viewing preferences. These announcements consisted of two components: the medium of broadcast, the content tone of the program, and reference information about the host. We statistically analyzed how combinations of positive and negative attributes in these components affected viewing preferences.

Previous research has extensively explored factors influencing viewing preferences, primarily focusing on television programs. For instance, Kwon et al.¹ conducted an integrated analysis of media contexts, performing a meta-analysis of 70 studies on advertising messages to reveal content factors affecting advertisement recall. Similarly, van Reijmersdal et al.² investigated the relationship between context and consumer behavior based on the theory of spillover effects, surveying over 1,000 participants. However, these studies are often applied to marketing contexts,

with content conditions finely detailed. Basic and highly applicable research in experimental environments remains limited. Additionally, most prior research targets traditional media such as television and magazines, with fewer studies focusing on new media platforms like YouTube. Therefore, this study simplifies the experimental environment by using content tones (positive or negative) and includes video streaming services to elucidate factors influencing media viewing preferences.

Furthermore, many existing studies do not consider the impact of reference information on viewing preferences. Reference information, which pertains to the essence of the content, includes details about hosts, participants, ratings, and program reputation. While it is believed that such information affects viewing preferences in media analysis practice, there are few studies that have clarified this relationship. Thus, this study also aims to reveal the impact of reference information on viewing preferences.

Another factor affecting viewing preferences is the respondent's attributes. For instance, Redfern³'s research in the UK identified the relationship between gender, age, and preferred program genres. Given

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that gender is recognized as a significant factor influencing human behavior across various fields such as psychology, this study will focus on gender as a fundamental variable. Additionally, by targeting university students, who typically have higher media consumption, we aim to derive more specific results.

In summary, the characteristics of this study are threefold. First, it uses an experimental environment to clarify the impact of content tone on viewing preferences. Second, it investigates the influence of reference information on viewing preferences. Third, it examines how the attributes of experimental participants, specifically gender, affect viewing preferences.

The remainder of the paper is organized as follows: The experiment design is presented in Section 2, the analysis results in Section 3, and the conclusion and discussion in Section 4.

2. EXPERIMENT DESIGN

We conducted the experiment from July to August 2023, targeting undergraduate students at a private university in Japan, and recruited 138 participants on a voluntary basis. We presented participants with several promotional descriptions of fictional talk show and asked them to rate their viewing preferences using a 5-point Likert scale.

The descriptions varied by the platform on which the program would be broadcast (television or YouTube), the tone of the content (positive or negative), and the type of reference information provided (positive, negative, or none). An illustration of the descriptions is shown in a figure 1,2.

In the experimental procedure, we randomly assigned participants to one of three groups based on the reference information: a group exposed to positive reference information, a group exposed to negative reference information, and a group not provided with any reference information. Each participant, based on their assigned group, was presented with four descriptions, created by crossing the two platforms and two content tones. Thus, each participant viewed four descriptions and rated their viewing preferences for each one.

Additionally, we collected demographic information from the participants. Specifically, we asked them to provide their gender (male or female) and their average daily television viewing time on weekdays (none, less than 30 minutes, 30 minutes to 1 hour, 1 to 2 hours, 2 to 3 hours, or more than 3 hours).

We then conducted statistical analyses of the participants' responses to determine how content tone and reference information influenced viewing preferences. The main findings are presented in the following section.

3. MAIN RESULTS OF ANALYSIS

a) Differences in Viewing Preferences by Media Platform

First, we aim to clarify whether there are differences in viewing preferences by media platform, which previous research has not yet identified. Specifically, we calculated the viewing preference scores (ranging from 1 to 5) for each participant separately by platform, based on the descriptions presented in Chapter 2. Each participant rated two descriptions for a given platform (positive and negative content tones), resulting in a total viewing preference score ranging from 2 to 10 points per platform. At this stage, we did not categorize participants by reference information or gender, as we will explore these factors in subsequent analyses.

Figure 2 presents a comparison of the mean total viewing preference scores. Hypothesis testing revealed no significant differences between platforms (for positive content tone: $t(137) = 0.923$, $p = 0.358$; for negative content tone: $t(137) = -0.717$, $p = 0.475$). In other words, within the scope of this study's analysis of program descriptions, we did not observe any differences in viewing preferences based on the media platform. Therefore, in the following analyses, we will proceed without considering platform differences.

b) Factors Influencing Viewing Preferences

In this section, we identify factors that influence viewing preferences using analysis of variance (ANOVA). Specifically, we conducted a three-way ANOVA for each content tone (positive and negative), treating gender (2 categories), reference information (3 categories), and average television viewing time on weekdays (6 categories) as the main effects, and total viewing preference scores as the dependent variable. Table 1 presents the ANOVA results for positive content tone, while Table 2 shows the results for negative content tone.

First, examining the positive content tone results (Table 1), we found a significant interaction between the main effects of television viewing time and reference information. We then conducted simple main effects tests and multiple comparisons to identify the conditions under which significant differences occurred. As a result, we found that significant differences were present only between the "no reference information" and "positive reference information" conditions for participants who watched television for 1 to 2 hours on average (Figure 3). Considering that the 1 to 2-hour category is the longest viewing time for which all reference information conditions were obtained within this experiment, we concluded that participants who watch more television tend to increase their viewing preferences only when the

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 content tone and reference information align in a positive direction.

Platform (TV/YouTube)	A new TV show , "Edo-chan Comedy TV", will start airing next month.
Tone of the content (Positive/Negative)	This variety comedy program stars Edo-chan, a rising young comedian who has recently gained popularity. The show features 10-minute comedy skits, 1-minute short skits, and occasional special segments such as travel reports, making it an entertaining program.
Reference information (Positive/Negative/None)	Edo-chan frequently appears on other shows and dramas, and he ranked first in this year's "Young Comedian Rankings". He is often a topic of conversation among friends.
	Would you like to watch this show?

Fig.1 Overview of Promotional Description (Positive tone of content and positive reference information condition)

Platform (TV/YouTube)	A new YouTube channel , "Sai-san's Celebrity Exposé Channel", will launch next month.
Tone of the content (Positive/Negative)	This channel features veteran entertainment reporter Sai-san, who shares gossip, private information such as celebrity marriages and divorces, and even scandals in the entertainment industry, making it a somewhat provocative channel.
Reference information (Positive/Negative/None)	However, Sai-san's reports are often so sensational that they have led to defamation lawsuits from the celebrities involved and online backlash (receiving criticism from many viewers on social media). Sai-san's reports are also considered controversial in conversations with friends.
	Would you like to watch this channel?

Fig.2 Overview of Promotional Description (Negative tone of content and negative reference information condition)

Table 1. The Analysis Results of the Three-way ANOVA (Positive content tone)

	Sum Sq	Df	F value	Pr(>F)
Gender	0.24	1	0.030	0.863
TV viewing time	59.7	5	1.519	0.190
Reference info.	5.51	2	0.350	0.705
Gender*TV viewing time	19.88	4	0.632	0.641
Gender*Reference info.	25.19	2	1.603	0.206
TV Viewing time*Reference info.	144.53	8	2.299	0.026 *
Gender*TV viewing time*Reference info.	66.79	7	1.214	0.301
Residuals	848.73	108		

Table 2. The Analysis Results of the Three-way ANOVA (Negative content tone)

	Sum Sq	Df	F value	Pr(>F)
Gender	3.26	1	0.381	0.539
TV viewing time	95.38	5	2.224	0.057 †
Reference info.	14.12	2	0.823	0.442
Gender*TV viewing time	53.34	4	1.555	0.192
Gender*Reference info.	5.39	2	0.314	0.731
TV Viewing time*Reference info.	120.85	8	1.761	0.093 †
Gender*TV viewing time*Reference info.	80.36	7	1.339	0.239
Residuals	926.2	108		

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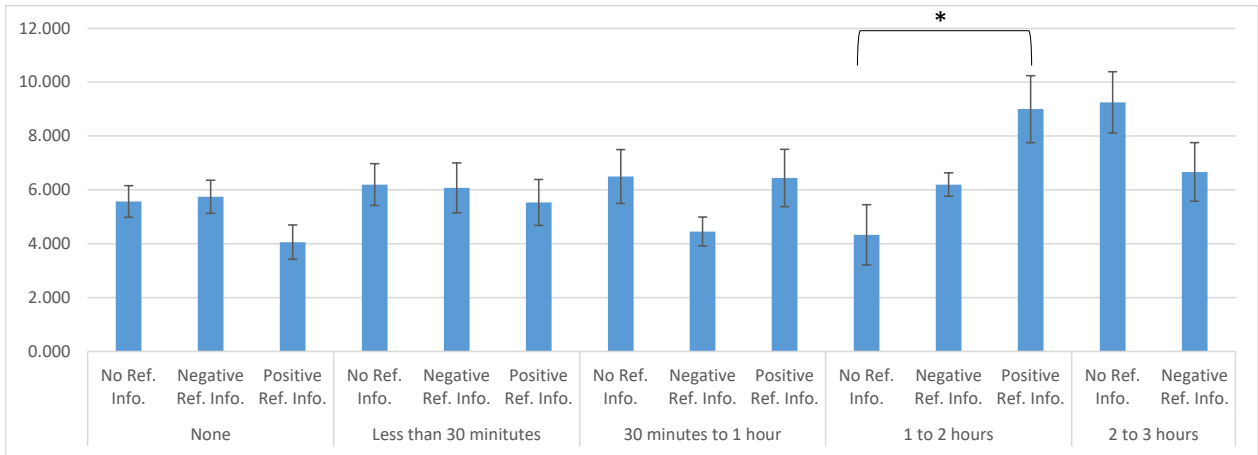


Fig. 3 Differences in Viewing Preferences by Main Effects Testing and Multiple Comparisons (Positive Content Tone)

Note 1: Responses for the 2-3 hour category under the positive reference information condition were not obtained and therefore are excluded.

Note 2: The 3-hour or more category is excluded due to the lack of responses from at least two participants per condition.

Note 3: ** * denotes $p < 0.05$.

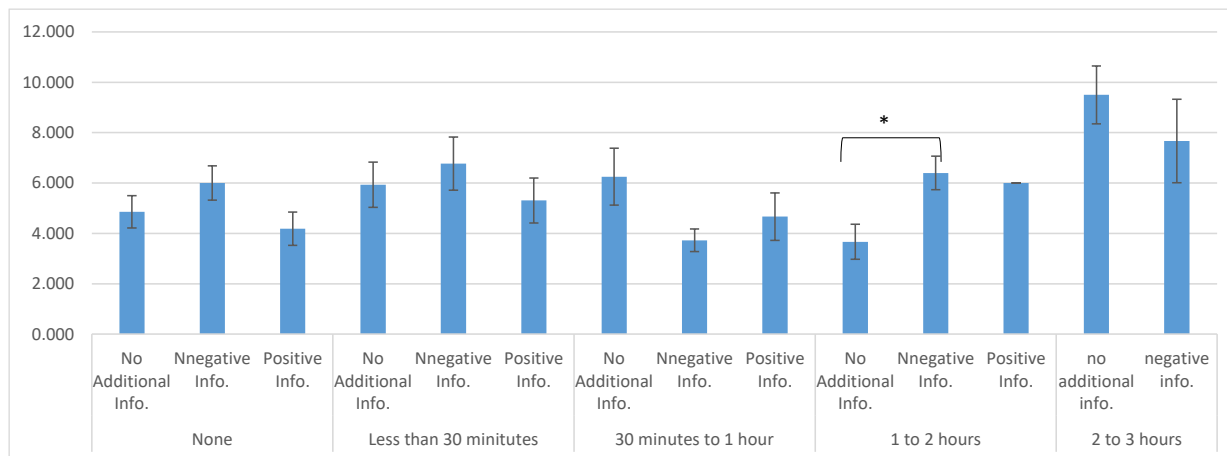


Fig. 4 Differences in Viewing Preferences by Main Effects Testing and Multiple Comparisons (Negative Content Tone)

Similarly, when analyzing the negative content tone results (Table 2), we found a significant trend in the interaction between television viewing time and reference information. As with the positive content tone, we conducted simple main effects tests and multiple comparisons, which revealed significant differences only between the "no reference information" and "negative reference information" conditions for participants who watched television for 1 to 2 hours on average (Figure 4). In other words, similar to the positive content tone, we concluded that participants who watch more television tend to increase their

viewing preferences for negative content only when the content tone and reference information align negatively. It is important to note that adding negative reference information to negative content essentially "exaggerates" the overall negativity of the description. While it might be expected that participants (viewers) would reduce their viewing preferences under such conditions, our results indicate an increase in viewing preferences, which suggests a unique effect.

On the other hand, for participants with shorter television viewing times, we found no significant differences across any conditions, regardless of content

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tone. Additionally, no significant differences were observed when the content tone and reference information did not align. Based on these results, we concluded that reference information only influences viewing preferences for participants with longer viewing times when the provided information aligns with the content tone, and under these conditions, viewing preferences consistently improved.

Furthermore, within the scope of this study, we did not observe any gender effects, which were highlighted in previous research, under any conditions. We discuss this finding, along with other results, in the next chapter.

4. CONCLUSION AND DISCUSSION

In this study, we investigated the factors influencing viewing preferences among Japanese university students through experimental methods. We identified three main findings.

Firstly, reference information has a conditional impact on viewing preferences. It only affects the preferences of participants who watch television for longer periods when it aligns with the content tone, whether positive or negative. This finding refines and extends previous research on the impact of content tone on viewing preferences, as highlighted by van Reijmersdal et al.²⁾ and Kwon et al.¹⁾ However, our experiment focused exclusively on the talk show genre and did not explore the effect of information value across multiple genres, as seen in van Reijmersdal et al.²⁾'s research. Future studies should consider different program genres and diverse conditions to discover more generalizable patterns in viewing preferences.

Secondly, we established that differences in media platforms do not affect viewing preferences. This result addresses a condition not considered in previous studies, such as those cited by Kwon et al.¹⁾, and introduces new findings to the field of media viewing preferences research. However, as mentioned earlier, our study focused on a specific program genre, so these results may be limited. Future research should include additional experiments across a wider range of program genres to validate and expand upon these findings.

Thirdly, we clarified that no gender effects were observed under any of the conditions in our experiment. This finding contrasts with Redfern³⁾'s study, which investigated respondents in the UK and found gender effects. However, Redfern's research included multiple program genres and a diverse age range, while our study focused on a more specific set of conditions. Thus, our results remain more limited in scope.

Among the findings of this study, the relationship between content tone and reference information is particularly interesting. For instance, in the field of

public relations, practices such as "crisis management" and "crisis response" often aim to address negative media coverage, such as product recalls or political scandals, by continuously providing reference information to shift public opinion positively. However, our results indicate that it is the combination of negative content tone with negative reference information that improves viewing preferences, rather than the combination of negative content with positive reference information (such as product improvements or favorable information about politicians). In other words, the effectiveness of information dissemination in crisis management, as traditionally conceived, is not supported by the findings of this study. This result is of significant interest not only to experts in public relations and media studies but also to practitioners in the field.

Finally, we outline future challenges. Firstly, future research should diversify experimental conditions. This study has so far highlighted specific program genres and participant age groups, but researchers should also consider varying the information delivery methods, such as switching from presenting program announcements to viewing advertising videos. Another important aspect is to examine in greater detail the factors that improve viewing preferences for negative content. As previously discussed, methodologies to positively shape public opinion during instances of negative content are crucial in crisis management. Given that these methodologies are actively debated in risk communication within social advancement, leveraging these findings to derive more practical insights will be essential.

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