

소셜 TV 시청 : 다른 TV 시청자에 대한 지각과 사회적 현존감의 효과

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Social TV Viewing : The Effect of Virtual Co-Viewers and the Role of Social Presence

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[요 약]

TV를 볼 때 다른 사람들과 소셜 미디어로 시청중인 TV 프로그램에 관해 이야기하는 행동이 늘어나고 있다. 소셜 TV 라고 하는 이 새로운 TV 시청 방법은 물리적으로는 같은 공간에 있지 않지만 소셜미디어라는 가상의 공간에서 함께 하며 사회적 커뮤니케이션을 하는 것을 말한다. 본 연구의 목적은 어떻게 그리고 왜 사회적인 면의 소셜 TV 시청이 즐거움에 영향을 미치는가를 연구함에 있다. 330명의 소셜 TV 시청자의 설문조사를 바탕으로 소셜 TV 시청자가 다른 소셜 TV 시청자가 자신과 얼마나 비슷하다고 지각하였는지에 따라 소셜 TV 시청이 사회적 현존감을 높이고 그에 따라 즐거움을 높인다는 결과를 찾을 수 있었다.

[Abstract]

Watching TV while communicating with other TV viewers via social media about the TV program is increasingly becoming popular. Called social TV viewing, this new TV viewing allows social interactions with virtual co-viewers, who are physically away but virtually together. The purpose of the study is to unfold how and why social aspects of social TV viewing affect enjoyment. Data were collected using an online survey from 330 social TV viewers. Primary findings suggest that social TV viewers' perceived similarity (homophily) of virtual co-viewers positively affect a feeling of social presence, which in turn increases enjoyment.

색인어 : 동종선호, 소셜 TV, 사회적 현존감, 소셜 미디어, TV

Keyword : Homophily, Social TV, Social presence, Social media, TV

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I . Introduction

Watching TV while communicating with other TV viewers via social media about the TV program is increasingly becoming popular. According to Ericsson Consumer Insight Summary Report[1], 62% of TV viewers of seven countries, including the United States, have used social media while watching TV. Nielson[2] reported that an average of 14.2 million interactions about a TV program occurred on social media in the U.S. in the fall of 2016. Interestingly, TV viewers reported that they enjoy sharing their viewing experiences with others on Twitter more than watching TV alone[3]. This phenomenon indicates that TV viewers engage in active communication with other TV viewers connected online by communicating about the particular TV program while watching it[4]. Generally speaking, this type of TV viewing practice is called social TV viewing.

Inherently, social TV viewing involves interactions with virtual co-viewers. Virtual co-viewers can be understood as other social TV viewers, who watch the same TV program and share their thoughts about it on social media. In this sense, virtual co-viewers are physically away but virtually together. The social interaction with virtual co-viewers is an integral part of social TV viewing, and it is one of the core characteristics that differentiate this new TV viewing behavior from the traditional one.

Social TV viewing is fundamentally based on humans' needs to belong and maintain meaningful relationships with others[5]. Thus, social interaction with virtual co-viewers is a focal feature of social TV. This unique nature of social TV viewing indicates that social aspects play a crucial role in the understanding of social TV experiences. Although some information is available, more research is needed to better understand how social aspects of social TV experiences influence social TV enjoyment. In particular, it is not clear "why" social perceptions about virtual co-viewers matter in social TV enjoyment. In this regard, the current study addresses the unanswered question by focusing on social presence, which is one of the most important concepts for mediated experiences.

II . Social TV

2-1 Social TV and Virtual Co-Viewers

Given that social TV viewing is a relatively new phenomenon, the concept has not been uniformly defined yet. Some research describes social TV as a new technological

application converging platforms that enable TV viewers to integrate TV viewing and social interactions[6]. In other research, social TV is defined as "socially connected TV"[7] that uses a TV monitor as a first screen and smartphone or tablet as a second screen[6]. Social TV is also described with focus on behavioral aspects such as viewing activities, rather than technological aspects of social TV devices or applications. For example, research describes social TV as "sociable, computer-mediated group viewing experiences"[7] or a virtual couch for "watching together as if in the same room"[8]. Of these various approaches, the current study's focus is on behavioral aspects rather than technological aspects. Thus, the current investigation describes social TV as a socially connected TV viewing practice with real-time back-channel conversations through social media[6] [9].

Twitter is dominantly used among social TV viewers to share their thoughts and opinions about a particular TV program and learn about other viewers' experiences. Wohn and Na[10] analyzed Twitter messages about President Barack Obama's live speech and a reality show, So You Think You Can Dance, which was televised nationwide in the United States in 2009. The study found that Twitter facilitated communal co-viewing experiences among viewers through conversations about the program.

Given that online social interaction is the focal feature of social TV viewing that differentiates it from traditional TV viewing, virtual co-viewers might affect overall viewing experiences. In this investigation, virtual co-viewers refer to other social TV viewers, who watch the same TV program and share their thoughts about it on social media. Thus, virtual co-viewers are physically away but virtually together on social media.

2-2 Homophily of Virtual Co-Viewers

Virtual co-viewers' community is potentially limitless because social media audience, in essence, is limitless. For example, a majority of Twitter accounts are public and anyone can be part of the community. This nature allows people to get to know each other in online community. Technically, reciprocity is not expected in conversations on Twitter. Some may be vocal, while others might be quiet. In the absence of enough information about the community, people often take some cues from the social media environment to imagine the community[11]. Marwick and Boyd[12] use the term, networked audience, to explain the nature of social media audience. They explain that "while the

broadcast audience is a faceless mass, the networked audience is unidentified but contains familiar faces; it is both potentially public and personal. Like the broadcast audience, the networked audience includes random, unknown individuals, but, unlike the broadcast audience it has a presumption of personal authenticity and connection (p. 129).”

When imaging the community of virtual co-viewers, homophily of the community would be one of the significant influences on social TV viewing experiences. Homophily refers to perceived similarity to others. Various types of homophily have been studied such as status/background homophily focusing on socio-demographic status (e.g., ethnicity, gender, age, etc.) and value/attitude homophily focusing on similar values, attitudes, and beliefs. Research has consistently indicated that humans tend to bond more with others that are similar to themselves than dissimilar ones. Consequently, people’s interpersonal network tends to be structured based on homogeneity of demographic, social, and individual characteristics[13].

The current body of literature does not provide concrete evidence regarding the relationship between homophily and presence, although there some studies showing the possible link; one study shows that homophily can affect social presence, more accurately, “parasocial social presence”[14].

Effects of homophily have been reported in various online contexts. For example, research has shown that the message source enhances credibility of online information (e.g. [15-16]). Further, homophily has been found to affect various communication behaviors online such as parasocial relationship building[17].

In the context of social TV viewing, there is no empirical evidence suggesting the relationship between perceived homophily of virtual co-viewers and social TV viewing experiences. Thus, it is not clear whether viewers would have more positive social TV viewing experiences when social TV viewers perceive virtual co-viewers to be similar to themselves, such as possessing similar opinions, life experiences, or background, compared to when perceiving them to be different. However, research indicates that viewers prefer interacting with other viewers who have the same interest or who share real life relationships such as friends and family [18-19]. Similarly, viewers tend to look for like-minded virtual co-viewers, who share similar thoughts and opinions about the program[3].

2-3 Social Presence

1) The Notion of Social Presence

While interacting with virtual co-viewers, social TV viewers might experience a feeling of social presence. Social presence is one of the important concepts to the understanding of mediated-communication experiences (e.g. [20-21]). Initially conceptualized by Short et al.[21] the notion is described as “the degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationships” (p. 65). Short et al.[21] emphasized the quality and property of a medium as a way of increasing the degree of social presence. Their research found that face-to-face communication is the most effective way of communication followed by video, audio, and text-based media.

As technologies evolve, the concept of social presence has expanded its scope by highlighting media users’ subjective perceptions, attitudes, and behaviors[22-24]. Biocca et al. [24] identified social presence as an outcome of cognitive stimulations and classified social presence into co-presence, psychological involvement, and behavioral engagement. Co-presence is concerned with a feeling of being with another. Focusing on sensory awareness of the embodied other, co- presence is usually understood as “we are together,” a feeling like being with someone. Psychological involvement indicates a deeply immersed feeling of another inducing immediacy or intimacy. Behavioral engagement refers to interdependent behavioral actions responding to the interaction partner, and it has been identified as the highest degree in the continuum of social presence.

In the context of social TV viewing, the current study’s focus is on social presence of virtual co-viewers. When social TV viewers engage in interactions with virtual co-viewers on social media, they may feel as if the virtual co-viewers are around them and experience psychologically being involved in the social interactions. Although they are not physically together in the same space, they may feel a strong sense of social presence of each other.

2) Causal Factors of Social Presence

Scholars have suggested that the level of social presence can be caused by various factors. Lombard and Ditton[25] categorized three predictors of presence (a broad category of social presence; see[26]): media form (e.g., size and quality of the image or sound), media content (e.g., social or physical reality of media content), and user factors (e.g., age, gender, personality). Similarly, Slater and Usoh[27] suggested two categories: external factors (i.e., the features of media itself such as media quality and resolution information) and internal

factors (i.e., individual characteristics). Later on, Lee and Nass[28] added social factors as another category affecting social presence.

In the context of social TV viewing, social factors are particularly important given that this TV viewing behavior primarily occurs through social interaction with others. Drawing from homophily research, when social TV viewers perceive virtual co-viewers to be similar, viewers would experience enjoyable interactions. This social cue, perceived similarity, would eventually play an important role in creating more socially rich experiences. The relationship between perceived similarity and a feeling of social presence can be further understood from Lee and Nass'[28] research. Lee and Nass examined how media users would respond to different types of computerized virtual voices. The study found that media users experienced stronger social presence when they heard a computerized voice manifesting a personality that is perceived to be similar to their own, compared to a voice manifesting a personality that is perceived to be dissimilar to theirs. Although a context is different, a similar pattern might be also found in social TV viewing.

Taken together, the current study examines the relationship between homophily (perceived similarity) and social presence. Particularly, two types of homophily are examined: attitude homophily and background homophily. Drawing from both theoretical (homophily; social factors for social presence) and empirical support[29], the following hypothesis is proposed:

H1a-b: Perceived similarity to virtual co-viewers, particularly (a) attitude homophily and (b) background homophily, positively predicts social TV viewers' feeling of social presence.

3) Social Presence and Enjoyment

Social TV viewing creates a sense of sharing space like a virtual living room with an access to virtual co-viewers via personal technologies. In this regard, the feeling of social presence, such as togetherness or being with other people, would influence social TV viewing experiences. In the extant research, social presence has been consistently studied as an important factor that facilitates effective and enjoyable virtual experiences. In particular, research has documented that social presence fosters media enjoyment[30], students' satisfaction with virtual classes [31], and satisfaction with a mobile technology use [32]. In this regard, the current study proposes the following hypothesis.

H2: Social presence positively predicts social TV viewing enjoyment.

III. Method

3-1 Participants

Initially, a total of 434 undergraduate students enrolled in an introductory communication course at a large public university in the United States were recruited for this study. In order to identify a sample of eligible participants, a set of screening questions focusing on the operational definition of social TV viewing was asked. In this study, social TV viewing was defined as a simultaneous act of watching an on-air TV program and checking other people's posts on social media about that TV program while watching the program. Reflecting the operational definition, one of the primary screening questions included: "Have you ever watched an on-air TV program and checked other people's posts/ feeds on Twitter about the TV program while watching the program?" Majority of the participants ($n = 357$, 82.23%) reported that they have engaged in some type of social TV viewing. Of those, most of them indicated that they have used Twitter as a social media platform for social TV viewing ($n = 330$, 92.44%). Each social media platform has different ranges of functionality. Thus, only social TV viewers using Twitter as a social media platform were included to the final sample to avoid any potential threats to internal validity that might come from various social media platforms.

The final sample, social TV viewers using Twitter, consisted of 330 individuals. The average age was 19.62 years ($SD = 3.23$), and a majority of the participants were females ($n = 237$: 71.8%). In the sample, 74.8% was Caucasian ($n = 247$), 10.3% was African American ($n = 34$), and the rest ($n = 49$: 17.9%) indicated other ethnic groups such as Asian and Hispanic.

3-2 Procedure

Survey was distributed via a university-licensed online survey tool (www.qualtrics.com). After the IRB's approval, a primary researcher contacted a course director to get permission to recruit students who were enrolled in the course. Upon the course director's permission, a recruitment email was sent to potential participants. Interested individuals were asked to go to a research participation website where they have the access to take the online survey. On the first page of the survey, participants were asked to read and acknowledge the informed consent.

Once participants acknowledge the informed consent, they were provided with descriptions of social TV viewing and virtual co-viewers. Virtual co-viewers were described as other

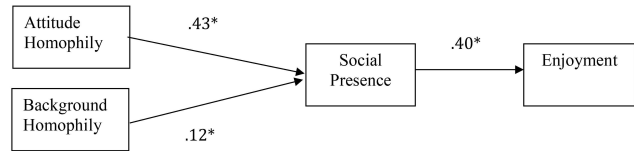
social TV viewers who post comments on social media (Twitter for this investigation) about the TV program, which they are watching (for the description of social TV viewing, see the participant section). Then, participants were asked to identify one particular TV program that they have recently engaged in for social TV viewing and asked to provide the name of the particular TV program. This process was necessary to help participants provide their responses by focusing on the particular social TV viewing experience.

Participants received a small amount of course credit by completing the survey. Thanks to a software system utilized in the research participation website, anonymity was guaranteed by separating survey responses from personal information obtained for the purpose of providing course credit.

3-3 Measures

Based on participants' social TV viewing experiences of the identified TV program, a series of questions were asked. Attitude homophily of virtual co-viewers ($\alpha = .89$) was measured with four items (e.g., "I believe social TV viewers of the program I identified are similar to me," "I believe social TV viewers of the program I identified think like me"). Background homophily of virtual co-viewers ($\alpha = .87$) was assessed with four items (e.g., "I believe the social TV viewers of the program I identified are from the same social class," "I believe the social TV viewers of the program I identified are culturally similar"). Both measures for attitude and background homophily were modified from an existing measure[33]. Social presence of virtual co-viewers ($\alpha = .87$) was assessed using five items modified from Nowak and Biocca[34] (e.g., "While watching the TV program, I felt like the social TV viewers were interacting with me," "While watching the TV program, I felt like the social TV viewers were watching the TV program together"). Enjoyment of social TV viewing ($\alpha = .94$) was measured using six items (e.g., "Social TV viewing of the program I identified is enjoyable", "... entertaining," "... fun"). The measure for enjoyment was modified from an existing measure[34]. All responses were obtained on a 7-point Likert-type scale (1 = Strongly Disagree, 7 = Strongly Agree).

At the end, the survey asked about participants' demographic information (e.g., sex, age, ethnicity) and basic information about social TV viewing experiences (e.g., frequency).



IV. Results

4-1 Descriptive Analysis

Before hypothesis testing, a set of simple descriptive analyses was conducted to assess overall patterns of social TV viewing behaviors in the sample (N = 330). First, frequency of social TV viewing was assessed as following: very frequently (n = 4; 1.2%), frequently (n = 49; 14.8%), sometimes (n = 157; 47.6%), and rarely (n = 113; 34.2%). Seven individuals (2.1%) did not report it.

A specific type of technologies used for social TV viewing was assessed on a 6-point scale (1 = Never; 6 = Very often). Five technologies were presented and participants were asked to indicate their frequency of the use on each technology. For the primary screen for the TV program, the most frequently used technology was TV monitor (M = 4.08; SD = 1.03) followed by laptop (M = 3.07; SD = 1.28), cell phone (M = 2.01; SD = 1.21), tablet (M = 1.76; SD = 1.14), and desktop (M = 1.60; SD = 0.98). For the secondary screen used for checking Twitter about the social TV program, the most frequently used technology was cell phone (M = 3.92; SD = 1.22), followed by laptop (M = 3.02; SD = 1.25), tablet (M = 1.85; SD = 1.19), TV monitor (M = 1.77; SD = 1.16), and desktop (M = 1.56; SD = 0.91).

표 1. 0차 상관계수, 평균, 표준편차

Table 1. Zero-order correlations, means, and standard deviations

| | 1 | 2 | 3 | 4 |
|-------|-------|-------|-------|------|
| 1. AH | 1 | | | |
| 2. BH | .47** | 1 | | |
| 3. SP | .49** | .32** | 1 | |
| 4. EN | .34** | .16** | .40** | 1 |
| M | 4.71 | 4.26 | 4.67 | 5.81 |
| SD | 1.17 | 1.23 | 1.20 | 1.05 |

Note1. *p < 0.5, **p < .01, ***p < .001

Note2. AH=attitude homophily, BH=background homophily, SP=social presence, EN=enjoyment

4-2 Hypotheses Testing

Prior to structural equation modeling analyses, correlation matrix was produced (Table 1). No multicollinearity problem

was identified because the highest correlation coefficient among these variables was .49 (association between social presence and attitude homophily), which is below the recommended threshold of .70[35]. Thus, hypotheses testing was proceeded.

Structural equation modeling was conducted using Lisrel 9.10 to test hypotheses. H1a-b examined the association between perceived similarity to virtual co-viewers, particularly attitude homophily (H1a) and background homophily (H1b), and social presence. Both attitude homophily ($\beta = 0.43$, $t = 7.103$, $p = 0.05$) and background homophily ($\beta = 0.12$, $t = 2.23$, $p = 0.05$) indicated significantly positive associations with social presence. Lastly, H2 predicted a positive association between social presence and social TV viewing enjoyment. As predicted, data confirmed the positive association ($\beta = 0.4$, $t = 7.75$, $p = 0.05$). Thus, all of the hypotheses were supported.

Data revealed a decent model fit. The chi-square statistic was significant for this large sample ($\chi^2(3)=13.45$), while the ratio of chi-square to degrees of freedom was acceptable at 4.48(13.45/3). The goodness-of-fit index (GFI) was high at .98, but the adjusted goodness-of-fit index (AGFI) was a bit lower at .92. The Bentler-Bonett normed fit index (NFI) was decent at .96, comparative fit index (CFI) = .97. The root mean square error of approximation (RMSEA) was acceptable at .10. See Figure1.

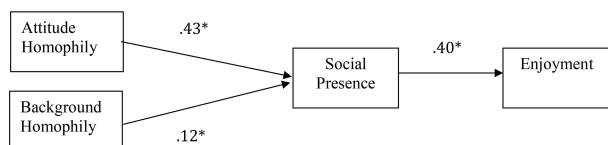


그림 1. 구조방정식을 이용한 모델 테스트

Fig. 1. Model testing using Structural Equation Modeling analysis

V. Discussion

Social TV viewing is a new TV viewing practice that allows social interactions with virtual co viewers, who are physically far away but virtually connected. As this study’s data indicate, the majority of young adults have experienced social TV viewing. This new way of TV viewing is certainly gaining much popularity. In order to better understand this TV viewing practice, the current study explored the underlying mechanism of social TV viewing focusing on homophily of virtual co-viewers, social presence, and

enjoyment.

5-1 Primary Findings and Implications

The primary finding of the current investigation suggests that with whom I think I watch TV together in the virtual living room is an important factor in social TV viewing. Specifically, homophily of virtual co-viewers significantly affect the feeling of social presence, which in turn increases social TV viewing enjoyment. When social TV viewers perceive virtual co-viewers to be similar to themselves, viewers are more likely to feel as if they were physically together with the virtual co-viewers.

It is important to note that attitude homophily shows stronger prediction on social presence than background homophily. As Figure 1 illustrates, the coefficients for attitude homophily ($\beta = 0.43$) and for background homophily ($\beta = 0.12$) are quite different. Although both types show significant prediction on social presence, the relative importance implies how effectively people develop their impressions and perceptions about others based on available social cues online. Compared to background information such as sex, age group, and ethnicity, which are easily identifiable on social media, it mostly takes more efforts to learn about others’ attitudes online. It appears that people seem to make this effort and effectively utilize social cues in developing their social perceptions about others. That is, people seem to relate themselves to others more effectively based on similarity about social aspects rather than factual information (e.g., demographic information). This tendency has been in fact acknowledged in extant research that homophily occurs through not only demographic or location factors but also sharing emotion and experience[44]. In the social TV viewing context, viewers seem to collect cues from virtual co-viewers and apply rules of homophily in the traditional interpersonal communication context to the mediated environment.

This study’s findings provide significant implications for research. First, the study contributes to the further understanding of social presence research. There are three primary causal factors for social presence or presence: media factors, user factors[25], and social factors[28]. While media factors have been extensively studied, relatively less attention has been paid to user factors and social factors. Particularly, confirming Lee and Nass’s[28] research on perceived similarity and social presence, the study finds that social factor is a strong contributor to eliciting social presence. By exploring relatively understudied causal factors, the current study contributes to the further understanding of social

presence research.

Second, the study's finding highlights the importance of users' perceptions about the audience in the social media community. Social TV viewers are virtually connected to each other to comprise a vast communicative network. They blur a traditional concept of audience and public and change the nature of public life engagement[36][12]; they create "networked audience"[12]. The current study's finding suggests that users create their perceptions about networked audience (virtual co-viewers in this investigation) by using available cues online, and such perceptions influence media enjoyment. In this regard, the study's findings shed light on the need for further research on the process of building networked audience and its effect.

The current study also suggests practical implications for improving TV viewing experiences. Given that social interaction and connectedness are core characteristics of social TV, social perceptions of networked audience (virtual co-viewers) can provide useful implications. Industries are encouraged to consider characteristics of potential social TV viewers and their networked audience when designing and developing social TV-related devices and applications (e.g., apps on the mobile phone). This approach can also benefit marketing strategies for promoting social TV-related technologies. Similarly, TV producers can also plan effective strategies for increasing TV watching enjoyment by analyzing potential social TV viewer's networked audience.

5-2 Limitations and Future Research Directions

Future research directions should be addressed in relation to limitations of this study. First, the current study tested two causes of social presence, user factors and social factors in the social TV viewing context. Due to the scope of this study, only one specific aspect for each causal factor, perceived similarity to virtual co-viewers (social factor) was examined. Given that social TV viewing experiences involve diverse social relationships and social environmental cues, scholars should examine other variables to advance the areas of research in social TV and social presence.

Next, in order to avoid potential effects of social media types, the current study investigated social TV viewing that occurs via Twitter only. Given the variety of social media platforms, social TV viewing can also occur via other outlets such as Facebook. Thus, future research should explore potential effects of social media types on social TV viewing experiences. It will be meaningful to examine how various ranges of technology functionality across different social

media outlets lead to different patterns and experiences of social TV viewing.

Lastly, future research should closely examine potential moderating effects of the genre of the TV program. To start uncovering this relatively new TV viewing practice, the current study examined overall social TV viewing practice without specifying any particular genre of the TV program. The current study acknowledges that sports games (e.g., Super Bowl), awards (e.g., Oscars), and reality shows (e.g., the Bachelorette) tend to generate a high volume of viewers' reactions on social media, and this active involvement might influence social TV viewing. Thus, future research should examine if the magnitude of social TV viewing experiences would vary depending on the genre of the TV program.

5-3 Conclusion

Social TV might be first understood as technology convergence of TV and social media. However, implications of this convergence represent much more than mere convergence of technologies. Through social TV viewing, active TV audience can easily engage in communication with others on social media (e.g., virtual co-viewers) and share their opinions and thoughts about a particular TV program. This kind of experiences may help create interpersonal connections in the virtual community such as a sense of togetherness with virtual co-viewers. Given that social TV viewing is a new communication behavior, there is much more to explore. Based on this study's findings, future researchers should further investigate this emerging area of research.

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