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Promoting Organ Donation Through an Entertainment–Education TV Program in Korea

Open Your Eyes
Byoung Kwan Lee, PhD, Hyun Soon Park, PhD, Myung-Il Choi, PhD, and Cheon Soo Kim, MA

The purpose of this study is to investigate the effects of the characteristics of the program, Open Your Eyes, an entertainment–education TV program in Korea, on parasocial interaction and behavioral intention for organ donation. The results indicated that affective evaluation positively affected parasocial interaction with the program but cognitive evaluation negatively affected involvement with beneficiaries in the program. Also, it was found that cognitive evaluation of Open Your Eyes had a significant positive effect on behavioral intention. In addition, a significant positive effect of program engagement on the behavioral intention was found. Thus, the results indicate that individuals who feel program engagement of Open Your Eyes will be more likely to proceed with organ donation. However, no direct effect of involvement with the beneficiary and program hosts was found.

Keywords: health communication; entertainment–education program; organ donation; parasocial interaction

According to the Korean Network for Organ Sharing, the number of people on transplant waiting lists continues to increase every year in Korea, from 10,143 persons in 2002, 11,771 in 2003, 13,100 in 2004, to 14,500 in September 2005. In September 2005, the proportion who had been waiting more than 3 years was 53.3%. Meanwhile, organ donors only totaled 1548 persons in 2002, 1596 in 2003, and 1717 in 2004. For corneal transplantation, the number of donors was 75 persons in 2000, 84 in 2004, and 91 in September 2005.1 The number of cadaveric donors is 33.7 persons per 1 million deaths in Spain, 21.7 in the United States, 20.0 in France, and 18.1 in Italy, compared with only 1.8 persons in Korea.1 Clearly, the shortage of cadaveric donors remains a significant social problem in Korea.

Attitudes and behavioral intention toward organ donation are influenced by social values, ethics, religion, customs, and the cultural atmosphere. The reasons for the large organ shortage in Korea may be especially because of traditional oriental views in religion regarding a

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world after death, Confucianism, an extended family system, preferences for burial in a complete body, a taboo on mutilation of organs and body, misunderstanding, and myths. Furthermore, the organ shortage is due not merely to the lack of potential donors but also to a failure to turn many potential donors into actual donors. Korea is a conservative society with various barriers to changing people’s attitudes and behaviors toward organ donation. Virtually no public health campaigns for organ donation have been conducted across the nation and both the Korean government and nongovernmental organizations (NGOs) show no sense of urgency or importance toward any public campaign.

However, in 2005 Korea experienced a significant shift in awareness regarding the attitudes toward organ donation, especially corneal transplantation, because of the broadcast every Saturday night since December 2004 of 1 entertainment—education (E-E) television program titled Open Your Eyes. The program is the first unique E-E television program in Korea that was designed to promote public awareness and behavioral change regarding organ donation, especially corneal transplantation. Since the program broadcast, the number of people registered on the organ donation lists in 2005 increased 12-fold compared with that in 2004, that is, from 2691 to 32,961 persons.1

Most previous E-E programs have run as dramas, situation comedies, soap operas, and so on, rather than as talk shows or documentaries. Open Your Eyes, however, has a talk show format. We suppose that the characteristics of the program may affect different parasocial interactions and behaviors from previously affected ones. The purpose of this study is to investigate the effects of the characteristics of the program, Open Your Eyes, on parasocial interaction and behavioral intention for organ donation. Specifically, this study investigates the relationship between involvement with the E-E on both intentions and behaviors. Identification of the relationship between these variables and examination of the effects of these variables on behavioral intention will provide helpful suggestions for future E-E programs promoting organ donation in Korea.

Like other television programs, E-E programs have affective and cognitive elements. In the process of watching the E-E programs, parasocial interactions are also assumed to occur between the program and viewers. Affective and cognitive aspects of the program are proposed to play an important role for parasocial interaction with the program.

Parasocial interaction originally meant quasi-relationships that audience members develop with media performers or the characters that they portray, relationships that are similar to those that surface within the audience’s peer group.2 Levy3 found that television news viewers parasocially interact with the media personae both affectively and cognitively. Affective parasocial interaction is the “degree to which audience members identify with a particular media character,” whereas cognitive parasocial interaction is the “degree to which audience members pay careful attention to the characters in a media message and think about its educational content.”4(pp172-173)

Through parasocial interaction, audiences come to have a feeling that they are identified with characters in the media. In the area of media studies, the role of identification has been emphasized as a central mechanism underlying media effects.5-12 Most studies on audience involvement2,3,7,13-18 have used parasocial interaction as a concept similar to identification. Sood13 identified involvement as a mediator of responses toward prosocial behaviors promoted by an E-E media program. Although the author did not provide a clear distinction between parasocial interaction and identification, it seems that both processes overlap.19 Sood13 viewed identification as a part of audience involvement that is one way in which to promote the development of identification.

This study assumes the operation of 3 types of parasocial interaction with media characters and contents while viewing the television program, Open Your Eyes: parasocial interactions with beneficiaries, with program hosts, and with the program itself. In turn, we
predict that these 3 parasocial interactions will eventually change the audiences’ behavioral intention related to organ donation.

It is assumed that the more affective aspects of the program appear salient to viewers, the more parasocial interaction occurs between the program and the viewers. Through parasocial interaction, viewers identify with the program itself, the beneficiaries, and the program hosts as well. In addition, involvement in the program through parasocial interaction is supposed to influence on behavioral intention for the corneal transplantation.

Hypotheses

_Hypothesis 1:_ Affective evaluation of the program will lead to involvement with the beneficiaries in the program, the program hosts and the program itself.

_Hypothesis 2:_ Cognitive evaluation of the program will lead to involvement with the beneficiaries in the program, the program hosts and the program itself.

_Hypothesis 3:_ Affective and cognitive evaluation of the program will lead to the behavioral intention for organ donation.

_Hypothesis 4:_ Involvement with the beneficiaries in the program, program hosts, and the program itself will lead to the behavioral intention for organ donation.

Methods

_Open Your Eyes Education Entertainment Program_

_Open Your Eyes_ is the first and unique E-E television program in Korea, which is designed to increase awareness for organ donation and promote behavioral changes. The program host tells the story of one family whose member suffers from sight impairment because of abnormal cornea tissue. The program producers help the handicapped to have a corneal transplantation operation whose process is broadcast. Since its first broadcast on December 11, 2004, this program has shown 19 successful corneal transplantation operation stories.

The narrative structures of the program _Open Your Eyes_ consist of 2 factors: cognitive and affective. In terms of the affective aspect, the program is filled with dramatic elements triggering emotional reaction from television viewers. The program shows viewers a personal or family story of someone who has suffered from sight impairment, poverty, and social prejudice, and so on.

This program is composed of fewer cognitive elements than affective ones. Every episode includes only a small amount of information about organ donation, for instance, rationales and necessities for organ donation, statistics regarding organ donation, the number of people on the waiting lists for transplantation, how to register to be an organ donor, and procedures for organ donation.

Research Design

To examine our hypotheses, a person-to-person survey was conducted between October 24 and 25, 2005. The study was designed to investigate the effects of the characteristics of _Open Your Eyes_ on parasocial interaction and behavioral changes for corneal transplantation.

Sampling and Respondents

A convenience sampling method was employed. Respondents of this study (n = 183) were undergraduate students recruited from communication, advertising, and public relations...
courses at 3 major universities in Korea. The respondents ranged in age from 18 to 32 years with an average age of 22 years. The gender ratio was 45% male and 55% female.

Procedure
Surveys were conducted in classrooms on the campuses of 3 major universities for 2 days from October 24 to 25, 2005. Research participants were given a consent form to sign. Only those who agreed to participate in the study and watched the program were instructed to sign the form and continue to answer the survey. Respondents were asked to read the questions carefully and then fill out self-administered questionnaires.

Measures
First, evaluation toward Open Your Eyes included affective evaluation and cognitive evaluation. Each item was measured by asking questions about the degree to which the respondent agreed, with a 7-point Likert-type scale ranging from strongly disagree (score 1) to strongly agree (score 7). Affective evaluation was measured with 5 questions. For example, “I’m deeply impressed when the beneficiary of the corneal transplantation in the program says, “I can see clearly now.” Cognitive evaluation was measured with five questions. For example, “I think I have gained information regarding corneal transplantation after watching the program.”

Second, parasocial interaction with the program includes involvement with the beneficiary, program hosts, and the program itself. Parasocial interaction with Open Your Eyes was measured with 14 questions. Involvement with the beneficiary was measured with 5 questions. For example, “I’m nervous when the beneficiary is unbandaged.” Involvement with the program hosts was measured with 5 questions. For example, “I feel comfortable with the doctor who operates on the beneficiary in the program.” Involvement with the program itself was measured with 4 questions. For example, “I’m waiting for the air time of the program.”

Finally, behavioral intention toward organ donation was measured with 7 questions. Each item was measured by asking questions about the degree to which they agreed, with a 7-point Likert-type scale ranging from strongly disagree (score 1) to strongly agree (score 7). For example, “I have consulted with my family about cornea donation.”

Statistical Analyses
First, to verify the 7-factor structure of the measurement model, confirmatory factor analysis (CFA) was performed by using the LISREL 8.53 structural equation modeling (SEM) program.20 A total of 31 items yielded a 7-factor structure with good fit indices, $\chi^2(419) = 1092.15$, standardized root mean square residual (SRMR) = .09, and comparative fit index (CFI) = .93.

Hu and Bentler21 suggested SRMR and one of the other recommended indices such as the CFI, Tucker–Lewis index (TLI), and relative noncentrality index as appropriate fit indices. In general, a value >.90 on CFI was considered to indicate a well-fitting model, but a cutoff point value close to .95 has been recently recommended as a good model fit. A favorable value of the SRMR is close to .09.21 Table 1 presents the mean, standard deviation, factor loading of each item, fit indices of measurement model, and Cronbach’s $\alpha$ of each construct. Second, to examine the hypotheses, we tested a recursive model that describes an integrated set of causal relationships. The pathways in the model that will be tested are both affective evaluation and cognitive evaluation as positive predictors of each audience involvement, which is a positive predictor of behavioral intention. Two direct paths from
Table 1. Factor Loading and Cronbach’s α of the Measurement Model

<table>
<thead>
<tr>
<th>Factor</th>
<th>Item</th>
<th>Mean</th>
<th>SD</th>
<th>Factor Loading</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective evaluation</td>
<td>I’m deeply impressed when the beneficiary of the corneal transplantation in the program says, “I can see clearly now”</td>
<td>5.38</td>
<td>1.35</td>
<td>.83</td>
<td>.85</td>
</tr>
<tr>
<td></td>
<td>I’m touched by the moment when the beneficiary opens his or her eyes in the program</td>
<td>5.11</td>
<td>1.38</td>
<td>.81</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I’m touched by the family story whose member donated his or her cornea</td>
<td>4.82</td>
<td>1.34</td>
<td>.77</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I think Open Your Eyes is very touching</td>
<td>5.05</td>
<td>1.29</td>
<td>.87</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I’m impressed when hosts of the program feel for the family whose member needs corneal transplantation</td>
<td>3.70</td>
<td>1.41</td>
<td>.45</td>
<td></td>
</tr>
<tr>
<td>Cognitive evaluation</td>
<td>I think I have gained information regarding corneal transplantation after watching the program</td>
<td>4.77</td>
<td>1.50</td>
<td>.73</td>
<td>.88</td>
</tr>
<tr>
<td></td>
<td>I think I have gained information about how many people participate in organ donation</td>
<td>4.63</td>
<td>1.37</td>
<td>.71</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I think I have come to know how I can participate in cornea donation after watching the program</td>
<td>4.36</td>
<td>1.50</td>
<td>.73</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I think I have gained information about how many people participate in corneal transplantation</td>
<td>4.68</td>
<td>1.31</td>
<td>.84</td>
<td></td>
</tr>
<tr>
<td></td>
<td>After watching the program, I got to know what corneal transplantation is</td>
<td>4.52</td>
<td>1.35</td>
<td>.83</td>
<td></td>
</tr>
<tr>
<td>Involvement with beneficiary</td>
<td>I’m nervous when the beneficiary is unbandaged</td>
<td>4.26</td>
<td>1.44</td>
<td>.81</td>
<td>.88</td>
</tr>
<tr>
<td></td>
<td>I’m excited when the beneficiary in the program opens his or her eyes</td>
<td>4.20</td>
<td>1.58</td>
<td>.87</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I pray for the success of the corneal transplantation</td>
<td>5.74</td>
<td>1.28</td>
<td>.69</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I feel for the beneficiary’s family when the beneficiary opens his or her eyes</td>
<td>4.77</td>
<td>1.38</td>
<td>.68</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I cry whenever I hear the beneficiary’s family story in the program</td>
<td>3.93</td>
<td>1.62</td>
<td>.79</td>
<td></td>
</tr>
<tr>
<td>Involvement with program hosts</td>
<td>I feel comfortable with the doctor who operates on the beneficiary in the program</td>
<td>3.30</td>
<td>1.54</td>
<td>.60</td>
<td>.89</td>
</tr>
<tr>
<td></td>
<td>I feel intimate with the doctor who operates on the beneficiary in the program</td>
<td>3.23</td>
<td>1.63</td>
<td>.58</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I trust the doctor who operates on the beneficiary in the program</td>
<td>4.11</td>
<td>1.49</td>
<td>.53</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I feel close to the hosts of the program</td>
<td>3.75</td>
<td>1.53</td>
<td>.95</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I feel comfortable with the hosts of the program</td>
<td>3.82</td>
<td>1.51</td>
<td>.95</td>
<td></td>
</tr>
<tr>
<td>Involvement with program</td>
<td>I’m waiting for the air time of the program</td>
<td>2.36</td>
<td>1.15</td>
<td>.86</td>
<td>.87</td>
</tr>
<tr>
<td></td>
<td>I would feel sorry if the program is discontinued</td>
<td>2.47</td>
<td>1.28</td>
<td>.85</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I feel I would like to belong to the production team of the program</td>
<td>2.35</td>
<td>1.25</td>
<td>.72</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I want to meet the beneficiary and his or her family</td>
<td>2.61</td>
<td>1.31</td>
<td>.74</td>
<td></td>
</tr>
<tr>
<td>Behavior</td>
<td>I have consulted with my family about cornea donation</td>
<td>2.41</td>
<td>1.69</td>
<td>.90</td>
<td>.90</td>
</tr>
</tbody>
</table>
affective evaluation and cognitive evaluation to behavioral intention are also included in the model. The proposed hypothesized model was tested by using the SEM technique. Maximum-likelihood (ML) estimates of the model’s parameters were obtained by using LISREL 8.53. Listwise deletion was used for missing data. Multicollinearity or normality problems in the data were not found. Demographic variables (gender, religion) were not found to be significant predictors of differences on behavioral intention toward organ donation, so those variables were not considered in the following analysis.

All paths from the 2 exogenous variables (affective evaluation, cognitive evaluation) to the 4 endogenous variables (involvement with the beneficiary, involvement with the program hosts, involvement with the program, and behavioral intention toward organ donation) were allowed to be free in the model. Measurement errors on all exogenous variables were constrained to equal zero, and they were allowed to freely covary with one another. In the second block of the model, 3 direct paths from the 3 endogenous variables (involvement with the beneficiary, with the program hosts, and with the program) to behavioral intention toward organ donation were estimated.

Results

The result showed that the indices for the hypothesized model indicated an overall good fit, $\chi^2(422) = 1174.23$, SRMR = .11, CFI = .92. All the factor loadings on the latent variables were statistically significant, ranging from .50 to .95 ($P < .001$), and the fitted model accounted for 13.8% of the variance in behavioral intention toward organ donation. Figure 1 presents the parameter estimates for the hypothesized structural model, including the standardized path coefficients.

As shown in Figure 1, the standardized path coefficients indicated that affective evaluation positively affected parasocial interaction with the program ($\gamma = .93$, $P < .01$ for involvement with the beneficiary; $\gamma = .61$, $P < .01$ for involvement with program hosts; and $\gamma = .64$, $P < .01$ for involvement with the program), but cognitive evaluation negatively affected involvement with beneficiaries in the program ($\gamma = -.17$, $P < .05$). Therefore, hypothesis 1 was supported, whereas hypothesis 2 was partially supported.

We also hypothesized that evaluation of Open Your Eyes would affect behavioral intention of Open Your Eyes. As indicated in Figure 1, cognitive evaluation of Open Your Eyes had
a significant positive effect on behavioral intention (γ = .30, P < .05). Therefore, hypothesis 3 was partially supported.

Hypothesis 4 examined the direct effects of involvement on the behavioral intention toward organ donation. A significant positive effect of program engagement on the behavioral intention was found (β = .33, P < .01). Thus, the results indicate that individuals who feel program engagement of Open Your Eyes will be more likely to proceed with organ donation. However, no direct effect of involvement with the beneficiary and program hosts was found. Therefore, hypothesis 4 was partially supported.

Discussion and Recommendation

This study examined the effects of the characteristics of one Korean E-E program, Open Your Eyes, on the behavioral intention changes for organ donation, specifically by investigating the relationship between the viewers’ evaluation on the program characteristics (ie, affective and cognitive aspects), parasocial interaction (ie, involvement with a beneficiary, program hosts, and the program itself), and behavioral intention changes.

In summary, the respondents who evaluated the program as affective and emotion evoking had a tendency to be involved with the beneficiary, program hosts, and the program itself. Of these 3 variables, involvement with the program itself had a statistically significant relationship with behavioral intention and played a mediating role between affective engagement with the program and behavioral intention. However, neither involvement with beneficiary nor involvement with program hosts was a significant predictor of behavioral intention. A possible explanation for this finding is that the genre of the E-E program in this study is a talk show. Although previous E-E studies in general dealt with television dramas, sitcoms,
and soap operas,7,13,22 very few studies have dealt with talk shows. Most of the previous studies showed that involvement with program characters plays a significant mediating role between program evaluation and behavioral intention, which was not the case in this study. Unlike in most traditional E-E programs, the results in this study suggest that parasocial interaction with characters (ie, program hosts and beneficiary) in the program does not play a significant mediating role between program viewing and behavioral intention changes in E-E programs that are produced in the format of talk shows or documentaries.

Respondents who evaluated the program as informative and educational showed no tendency to be engaged in the program hosts or the program itself. Rather, the respondents’ cognitive evaluation of the program had a negative relationship with the beneficiary involvement. In other words, the more respondents cognitively processed information of the program, the less they were involved with the beneficiary of the program. Involvement with the beneficiary did not play a mediating role between cognitive evaluation of the program and behavioral intention. Rather, cognitive evaluation of the program was directly connected to behavioral intention changes. This result supports Levy’s3 research result where he suggested that affective parasocial interaction occurs when audience members identify with a particular media characters such as show hosts and the beneficiary, whereas cognitive parasocial interaction occurs when audience members pay careful attention to the message and educational content leading to behavioral intention changes toward organ donation.3,4

From a practical perspective, E-E programs in the format of talk shows should focus on cognitive elements such as information, facts, and educational tips rather than on affective elements to motivate prosocial behaviors.

This study had several limitations. First, the respondents were young undergraduate students who may have perceived a lower vulnerability to death, with a consequently reduced chance to consider their organ donation after their deaths. Research with a more representative sample should be conducted in the future. Second, there was limited power to employ SEM. Therefore, the study results can only be interpreted with careful consideration. Third, the decision for organ donation may be affected by a variety of other variables such as family structure, conversation with family members, self-efficacy, and so on,23 which also need to be taken into consideration in future studies. Fourth, time factor in recall of messages should have been considered. And finally, program watching experiences of respondents should have been examined and considered in the analysis.

References