Entertainment-education and HIV-AIDS prevention. Moderating and mediating processes

Edu-entretenimiento y prevención del VIH-SIDA. Procesos de moderación y mediación

Efeitos da modalidade do mensagem de educação-entretenimento (escrita versus audiovisual) na intenção de conduta. O papel moderador da imagem mental

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ABSTRACT | This article is part of an entertainment-education research (EE) from the perspective of narrative persuasion. It presents the results of experimental research aimed at contributing to the improvement of the design of EE strategies to promote HIV testing in men who have sex with men (MSM). Specifically, we assessed the effect of the entertainment-education message (written vs. audiovisual) and the moderating role of the ability to generate mental imagery in the persuasive impact of EE pieces. In this experimental research, 109 MSM were randomly distributed into two experimental conditions (audiovisual versus written message). The results showed that the ability to generate mental imagery moderated the effects of the EE message modality on narrative transportation and the identification with characters. Besides, it was verified that narrative transportation and identification with characters are relevant mediating mechanisms, but these indirect effects were conditioned by the ability to generate mental imagery. These results suggest an advance in the knowledge process of narrative persuasion, the role of individual differences, and the provision of relevant information for the design of EE interventions.

KEYWORDS: narrative persuasion; entertainment-education; HIV-AIDS prevention; stimulus modality; narrative transportation; identification with the character; mental imagery; behavioral intention.

RESUMEN | *Este artículo se enmarca en la investigación sobre educación-entretenimiento (EE) desde la perspectiva de la persuasión narrativa. Se presentan los resultados de un estudio experimental orientado a contribuir a la mejora del diseño de estrategias de EE para la promoción de la realización de la prueba del VIH en hombres que tienen sexo con hombres (HSH). Específicamente, se analizó el efecto de la modalidad del mensaje (escrito versus audiovisual) y el rol moderador de la capacidad para generar imágenes mentales en el impacto persuasivo de las piezas de EE. En el estudio experimental participaron 109 HSH, distribuidos aleatoriamente a dos condiciones experimentales (mensaje audiovisual versus mensaje escrito). Los resultados mostraron que la capacidad de generar imágenes mentales moderaba el efecto de la modalidad del mensaje EE sobre el transporte narrativo y la identificación con los personajes. Asimismo, se constató que tanto el transporte narrativo como la identificación con los personajes actuaban como mecanismos mediadores relevantes, pero dichos efectos indirectos estaban condicionados por la capacidad para generar imágenes mentales. Estos resultados suponen un avance en el conocimiento de los procesos de persuasión narrativa, el rol de las diferencias individuales y la entrega información relevante para el diseño de intervenciones de EE.*

PALABRAS CLAVES: *persuasión narrativa; educación-entretenimiento; prevención de VIH-SIDA; modalidad de la narrativa; transporte narrativo; identificación con el personaje; capacidad para generar imágenes mentales; intención de comportamiento.*

RESUMO | Este artigo faz parte da pesquisa sobre educação e entretenimento (EE) sob a perspectiva da persuasão narrativa. São apresentados os resultados de um estudo experimental destinado a contribuir para melhorar o desenho de estratégias de EE para promover o teste anti-HIV em homens que fazem sexo com homens (HSH). Em particular, foi analisado o efeito da mensagem educação-entretenimento (escrita versus audiovisual) e o papel moderador da capacidade de gerar imagens mentais no impacto persuasivo das peças de EE. Participaram do estudo experimental 109 HSH e foram distribuídos aleatoriamente em duas condições experimentais (audiovisual versus mensagem escrita). Os resultados mostraram que a capacidade de gerar imagens mentais moderou o efeito da modalidade de mensagem EE no transporte narrativo e na identificação de personagens. Além disso, verificou-se que tanto o transporte narrativo quanto a identificação com as personagens atuaram como mecanismos mediadores relevantes, mas tais efeitos indiretos foram condicionados pela capacidade de gerar imagens mentais. Esses resultados significam um avanço no conhecimento dos processos de persuasão narrativa, o papel das diferenças individuais e fornecem informações relevantes para o desenho das intervenções de EE.

PALAVRAS-CHAVE: persuasão narrativa; educação-entretenimento; homens que fazem sexo com homens (HSH); prevenção do HIV-AIDS; modalidade de estímulo; transporte narrativo; identificação com personagens; imagens mentais; intenção de comportamento.

ENTERTAINMENT-EDUCATION AND HIV-AIDS PREVENTION. MODERATING AND MEDIATING PROCESSES

The research on narrative persuasion studies the processes or mechanisms that explain how narratives messages can change people's attitudes, believes, intentions, and behaviors (Appel & Richter, 2007, 2010; de Graaf et al., 2011; Green & Brock, 2000; Hoeken & Fikkers, 2014; Igartua, 2010; Slater et al., 2006). In fact, meta-analysis reviews have validated that narratives cause significant effects in these processes (Braddock & Dillard, 2016; Shen et al., 2015). This knowledge is being applied in areas such as Health Communication (de Graaf et al., 2016), being one of the most important the design of entertainment-education (EE) strategies (e.g., Igartua & Vega, 2016; Moyer-Gusé et al., 2011; Murphy et al., 2013; Robinson & Knobloch-Westerwick, 2017; Singhal & Rogers, 2002; Wang & Singhal, 2021).

From the perspective of narrative persuasion, the research on EE has focused mainly on the analysis of mediating mechanisms that explain the efficacy of narrative formats as the narrative transportation and the identification with characters (de Graaf et al., 2016; Igartua & Vega, 2016; Kim & Lee, 2018). Generally, these studies suggest that involvment with narrated stories and characters play a relevant role in the persuasive impact of EE messages (Moyer-Gusé, 2008; Robinson & Knobloch-Westerwick, 2017; Van Laer et al., 2014).

To date, most of the research has mainly studied the influence of factors connected with the construction of messages, analyzing the differential impact of certain characteristics of messages and their characters (de Graaf et al., 2016; Tukachinsky, 2014). For instance, it has been analyzed the differential impact of narrative messages (stories with characters) against non-narrative messages (which provide information or knowledge in abstract or statistically) (Bekalu et al., 2018; Morris et al., 2019; Moyer-Gusé & Nabi, 2010). Other important research groups have studied how to increase the involvement with messages (e.g., narrative transportation) manipulating the exposure conditions as the distraction (de Graaf et al., 2009; Zwarun & Hall, 2012), perspective-taking (Appel, 2011; Green & Brock, 2000), meta-narrative information (Appel & Malečkar, 2012; Shedlosky, 2010) or literary qualities of narrative (de Graaf et al., 2011; Donné et al., 2017). Additionally, aspects of media stimuli have been manipulated, such as the perspective from the narrator (de Graaf, 2014; Krakow et al., 2018) or the effect of the narrative voice (Chen et al., 2016; Kim & Lee, 2017).

Although to a lesser extent, studies have also focused on the role of individual differences in processes of narrative persuasion. These studies have examined two constructs: the need for cognition (Appel & Malečkar, 2012; Appel & Richter, 2007; Green & Brock, 2000; Green & Jenkins, 2020; Green et al., 2008;

Winterbottom, et al., 2012; Zwarun & Hall, 2012) and the need for affection (Appel & Malečkar, 2012; Maio & Esses, 2001).

On this basis, our work is centered on determining the effect of EE messages (written versus audiovisual format) and the moderating role played by the ability to generate mental imagery—conceived as a measure of individual differences.

Ability to generate mental imagery and narrative persuasion

Green and Brock (2000) state that the transportation intensity and persuasive impact of a story are determined not only by the text (narrative) but also by extratextual and situational contexts, individual differences, and a general tendency to become immersed in a world of stories (see also, Green et al., 2004). However, research on the effect of individual differences on narrative persuasion processes is scarce, focusing mainly on the transportability effect (Dal Cin et al., 2002), the need for affection, and the need for cognition (Appel & Malečkar, 2012; Appel & Richter, 2010; Maio & Esses, 2001).

In this framework, the ability to generate mental imagery constitutes a novel variable that can enlighten on people's tendency to become involved with narrative messages. Pearson and Kosslyn (2013) define the ability to generate mental images as the capacity to imagine the world without sensory stimulation or to experiment with objects or events that do not exist in the world, through the imagination. In general, mental imagery allows one to see with the mind's eye; it means that people are able to create imagery on their minds despite the absence of sensory stimulation (Mast et al., 2012). Therefore, it constitutes a measure of character traits or individual differences. Cognitive psychologists, focusing on cognitive neuroscience, have fielded several behavior experiments to examine the mechanisms that underlie mental imagery (D'Angiulli et al., 2013; Kozhevnikov & Dhond, 2012), but there is scant research in the field of narrative persuasion on this topic.

Narrative transportation and identification refer to reception processes; i.e., psychological processes produced at the moment of exposure to the narrative message. Thus, the instruments commonly used to measure those constructs, assess *statuses* or psychological processes that fluctuate and depend on the characteristics of the narrative messages: for instance, there are narratives that have a great emotional impact or characters that incite a great empathy. However, it can be expected that those processes also can vary in function of certain individual characteristics or differences, as the ability to generate mental imagery.

It is deemed that the ability to generate mental imagery can influence the narrative's transportation and identification, given that in the definition of both

processes it is considered the ability (temporary) to imagine narrative situations in the story and the development of vivid imagery about the characters. In this regard, when people are in a state of immersion by the exposure to a fictional narrative, they will be aware of the creation of vivid and clear imagery in their mind about different elements of the narrative story (characters, scenarios, etc.). Therefore, it is expected that people with a greater ability to generate mental imagery, when confronted with a narrative, will experiment the narrative transportation and the identification with characters in the story with greater intensity than people with a lower ability.

To date, no research has been developed on the topic related to narrative persuasion and the effect of the ability to generate mental imagery as a determining or moderating variable of the persuasion processes. Thus, our research aims to analyze the role of the ability to generate mental imagery in the activation of narrative transportation and the identification with characters. However, we consider that another relevant factor in this process is the format used in the presentation of the narrative message.

The format used in the narrative's presentation

Empirically, it has been demonstrated that individuals can identify with characters and be transported by written, audio, or audiovisual narratives; therefore, these processes of involvement can be experienced independently from how the narrative is transmitted (Green et al., 2004; Tukachinsky, 2014).

Boeijinga and colleagues (2017) empirically observed that the audio and written versions of the same message were equally effective in generating changes in the audience's intention. This is in line with the results of Braddock's and Dillard's meta-analysis (2016), which showed that the message's modality does not influence the persuasive impact.

Walter and colleagues (2017) developed an experiment where they compared the narrative engagement and persuasive efficacy of narrative modality (audiovisual and written) of an EE message (*The Tamale Lesson*) designed to prevent cervical cancer. The results evidenced that the audiovisual message produced higher narrative engagement than the written narrative, which was associated with a greater persuasive impact. In addition, they observed that the audiovisual message generated greater reactance than the written message.

Green and colleagues (2008) suggest that a high level of need for cognition facilitates the narrative transportation to a greater extent in written narratives (compared to audiovisual narratives), given the greater cognitive effort required to process written texts. Occa and Suggs (2016) compared didactic and narrative

messages in two different formats: video and infographic, and found that in the narrative message the video format had a more positive effect on attitudes and intentions. It is possible that the communication strategy based on the video was more effective to facilitate the identification with characters.

These results suggest that understanding the effect of message modality in the narrative transportation, the identification, and persuasive impact is more complex than what was initially suggested. Consequently, the modality effect of the narrative message must be understood in interaction with other variables, particularly with individual differences. We considered that a determining variable is the ability to generate mental imagery. Thereby, our work contributes to knowledge improvement about processes of narrative persuasion with an entertainment-education message designed for the promotion of preventive behaviors concerning HIV testing. For this reason, the effect of interaction between the ability to generate mental imagery and the modality of narrative message on the narrative transportation and the identification with characters was analyzed.

Overview and hypotheses

To increase knowledge about the role of considered individual differences (ability to generate mental imagery) in processes of narrative persuasion by EE messages, an experiment was designed with two treatments in function of the message modality (written versus audiovisual). With this intent, this research compared two versions of the same narrative message, which only differed in the presentation modality.

Primarily, we predicted that the written message would induce greater narrative transportation (H1a) and identification with characters (H1b) than the audiovisual message, but this effect would only take place in people with a high ability to generate mental imagery.

Secondly, we predicted that the message effect of the EE narrative on behavioral intention would be mediated by the narrative transportation and the identification with characters. Thus, it was proposed that the ability to generate mental imagery would act as a moderating variable of the indirect effect of message modality on behavioral intention via narrative transportation (H2a) and character identification (H2b).
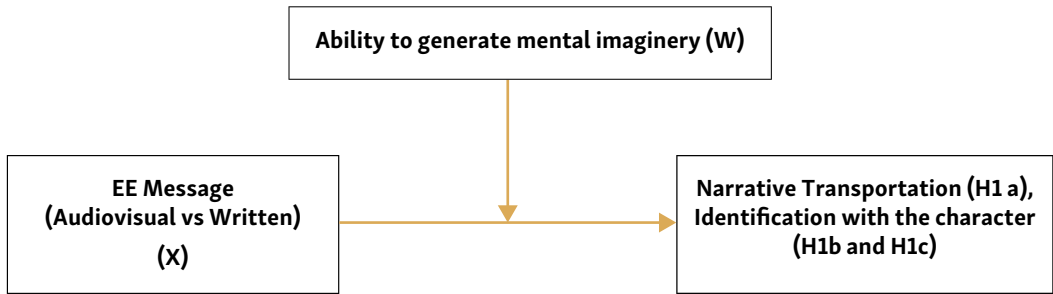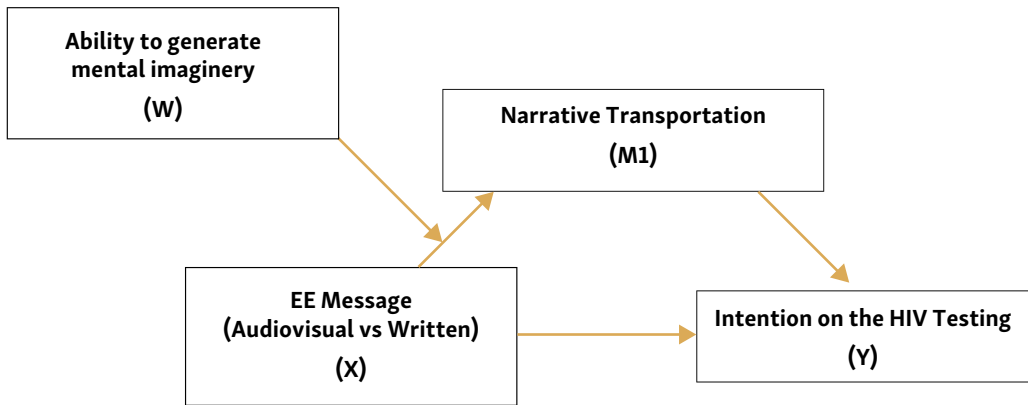
Figure 1. Simple Moderation Model (Model 1) (H1)

Source: Own elaboration.

(a) Mediator: narrative transportation (H2a)

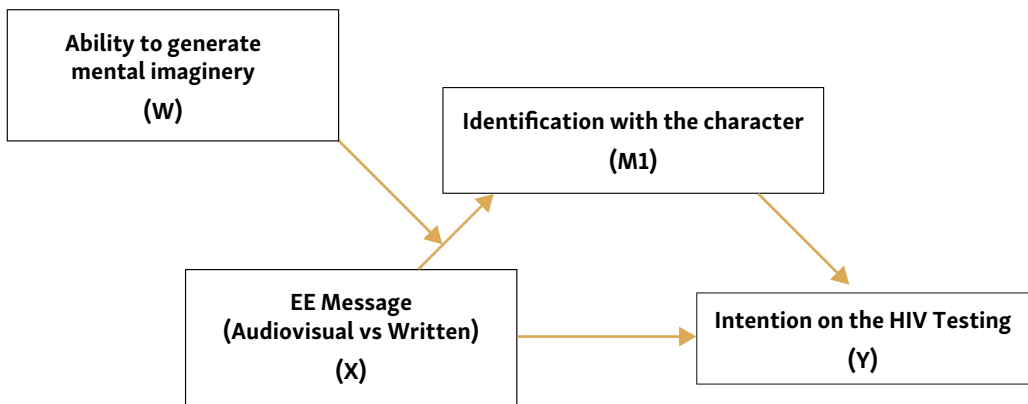**(b) Mediator: identification with characters (H2b)**

Figure 2. Moderated Mediation Model (Model 7)

Source: Own elaboration.

METHOD[1]

Participants

The experiment involved 109 men, MSM, with Colombian nationality from the Metropolitan area of Barranquilla and with an age range from 18 to 40 years (M =23.80, SD=5.86; with 84.4% between 18 and 29 years). The sample selection was made by convenience sampling, combined with the snowball technique and with voluntary participation. 78.8% of participants defined themselves as homosexual and 20.2%, as bisexual.

Design and procedure

This research used a randomized design with two groups. To distribute participants in each experimental condition, a raffle procedure was used. This experimental design analyzes the effect of the message modality (written versus audiovisual message) on the reception processes. A control group (of participants not exposed to the narrative message) was not included because our goal was to verify how message modality, in interaction with the ability of people to generate mental images, influenced two reception processes: narrative transportation and identification with the characters.

Before exposing the narrative message of EE, a self-applied questionnaire (pretest measure) was developed to collect information about the sociodemographic measures, sexual orientation, and the ability to generate mental imagery. After completing the questionnaire, participants were exposed to the narrative message of EE according to the experimental condition assigned. Immediately after the exposure, they filled out a new questionnaire in a self-applied printed format, where the data was collected related to the variables: narrative transportation, identification with characters, and a measure to assess the persuasive impact (behavioral intention concerning the HIV test).

Stimulus materials

As stimulus materials, Bondage's narrative story based on the EE strategy was used (Castillo & Ríos, 2018), whose preventive content revolved around HIV prevention in the MSM community. Following recommended procedures by EE, the film involved the use of Community Based Participatory Research (CBPR). The CBPR team was made up of members of the MSM community, representatives of gay community organizations, and researchers from George Washington University, the AIDS League, the Imaginary Foundation, and Universidad del Norte.

From the original film that lasted 1:21:55, a short version (37:10 minutes) was made for this investigation. The director and editor of the original film did the editing.

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1. Act of Ethical Evaluation 190 (June 27,2019), Universidad del Norte (Colombia).

From it, the written version (23 pages, 7,443 words) was created, which oversaw the team that wrote the original scripts for the film. To preserve the educational messages in the two formats, validation processes were carried out with *the guardians of the message* of the original production. Both conditions kept in common the plot and narrative arc, the characters, the story, the messages, and the duration.

Gabriel (19 years old) is the main character in the story, a relatively stable partner of Julio (30 years old), who was a bondage fan and dies, apparently as a product of AIDS. Although he has always had protected sex, rumors of Julio's disease motivate Gabriel to be tested for HIV, which results are negative. The narrative alludes to the importance of taking an HIV test while reinforcing the importance of using protective measures.

Santiago (24 years old) is a crazy young man, funny and openly free in his relationships. He says he is regularly tested and is not afraid of HIV, which is why he boasts of having sex without a condom without ever having been infected. Santiago tries to seduce Gabriel in his duel situation and accompanies him to take the HIV test with him (whose result is positive). He receives Gabriel's full support, affirming the message: *It is better to know; it does not matter if the HIV diagnosis is positive or negative.*

Measures

Ability to generate mental imagery. The participant's ability to generate mental imagery was evaluated with the Paivio & Harshman scale (1983) made up of 16 items (e.g., Listening to someone tell their experiences does not usually awake mental imagery of the incidents described; 1=Not at all, 5=A lot; α=.73; M=3.91, SD=.49).

Narrative transportation. The transportation generated was evaluated with the Appel and colleagues' scale (2015), made up of five items (e.g., I could imagine myself in the situations I saw described in the story; 1=Strongly disagree, 7=Strongly agree; α=.77; M=5.06, SD=1.25).

Identification with the characters. Identification with the characters was evaluated with the Igartua & Barrios scale (2012), made up of 11 items (e.g., I have felt as if I were Gabriel; 1=Not at all, 5=A lot). The identification with two characters in the narrative was measured: Gabriel, who is the main character of the story and who conveys the preventive message in the narrative (α=.90; M=3.54, SD=.87) and Santiago, with the role of a secondary character in the plot (α=.89; M=2.82, SD=.86). An original contribution of this study is to measure the identification with the two characters, protagonist and secondary, both with a relevant role in the plot and the transmission of the preventive message.

Intention to HIV test. The intention of conduct towards the HIV test was evaluated with the del Río-González and colleagues' scale (2016), made up of three items

(e.g., It is very likely that I will be tested for HIV in the coming weeks; 1=Strongly disagree, 5=Strongly agree; α=.65; M=3.96, SD=.86).

Data analysis strategy

To prove the hypotheses and the proposed models (see figures 1 and 2), we used the PROCESS macro for SPSS, developed by Hayes (2018), for the moderation analysis of hypothesis 1, we used model 1, and model 7 for hypothesis 2 that presents a moderated mediation model. In these analyses, the independent variable was coded as a dummy variable (0=audiovisual message and 1=written message). To determine the significance of the conditional indirect effects (model 7), 95% confidence intervals were generated by the percentile method based on 10,000 bootstrapping samples (Hayes, 2018).

RESULTS

It was primarily proved that there were statistically significant differences between the experimental groups in the sociodemographic variables (sexual orientation, age) and the ability to generate mental imagery (all of them collected in the pretest measure), to verify whether the randomization process had been carried out effectively.

No significant differences were observed between the two experimental groups as a function of age (t(107)=0.45 p=.652) and neither in the ability to generate mental imagery (t(107)=0,26, p=.794). The sexual orientation of the participants (homosexual versus bisexual) was also similar in the two sexual conditions (χ^2 (1, N=109) =.002, p=.962). Thus, it can be concluded that the randomization process used was effective and that the two groups of participants were equivalent.

Hypothesis 1: moderating effect of the ability to generate mental imagery

To contrast H1, the PROCESS macro (version 3.4) by Hayes (2018) was used, utilizing model 1 (simple moderation). It was observed that there was a marginally significant interaction effect between the experimental condition and the ability to generate mental imagery on narrative transportation (B=.87, p=.058). The analysis of the conditional effects showed that in people with a low ability to generate mental imagery, there were no significant differences in narrative transportation depending on the message modality ($\theta_{X \to Y|(W=3.42)}$ =.07, SE=.31, p=.804). On the other hand, when the participants showed a moderate ($\theta_{X \to Y|(W=3.91)}$ =.50, SE=.22, p=.024) or high ($\theta_{X \to Y|(W=4.40)}$ =.93, SE=.31, p=.003) ability to generate mental imagery, the written message generated more narrative transportation than the audiovisual message. Using the Johnson-Neyman technique (Hayes, 2018), the critical value in the moderating variable (ability to generate mental imagery) was calculated

from which the effect of the message modality on narrative transportation began to be statistically significant (see figure 3a). This value was 3.84 (on a scale with a theoretical range of 1 to 5), and above that value was 55.96% of the study participants.

Regarding the identification with the characters, it was observed that there was a marginally significant interaction effect between the experimental condition and the ability to generate mental imagery on the identification with Gabriel (B=.52, p=.098). The analysis of the conditional effects showed that there were no significant differences in the identification with Gabriel based on the message modality between the people with low ($\theta_{X \rightarrow Y |(W=3.42)}$ =.01, SE=.21, p=.951) or moderate ($\theta_{X \rightarrow Y |(W=3.91)}$ =.27, SE=.15, p=.081) ability to generate mental imagery. On the other hand, when the participants presented a high ability to generate mental imagery ($\theta_{X \rightarrow Y |(W=4.40)}$ =.53, SE=.21, p=.017), the written message generated greater identification with the protagonist than the audiovisual message. Using the Johnson-Neyman technique, the critical value in the moderating variable (ability to generate mental imagery) was calculated from which the effect of the message modality on identification with Gabriel began to be statistically significant (see figure 3b). This value was 3.98, and above that value was 46.78% of the participants.

Concerning the identification with the secondary character, Santiago, it was observed that there was a statistically significant interaction effect between the experimental condition and the ability to generate mental imagery on identification with Santiago (B=.89, p=.005). The analysis of the conditional effects showed that there were no significant differences in the identification with Santiago based on the message modality between people with low ability to generate mental imagery ($\theta_{X \rightarrow Y |(W=3.42)}$ =-.10, SE=.21, p=.622). On the other hand, when the participants presented a moderate ($\theta_{X \rightarrow Y |(W=3.91)}$ =.33, SE=.15, p=.032) or high ability to generate mental imagery ($\theta_{X \rightarrow Y |(W=4.40)}$ =.77, SE=.21, p=.000), the written message induced greater identification with Santiago than the audiovisual message. Using the Johnson-Neyman technique, the critical value in the moderating variable (ability to generate mental imagery) was calculated from which the effect of the message modality on identification with Santiago began to be statistically significant (see figure 3c). This value was 3.88, and above that value was 51.37% of the participants.

These results allow concluding that the ability to generate mental imagery acted as a relevant moderator, which supports H1. In this way, the written message generated greater involvement with the narrative and the characters than the audiovisual message, when the participants presented a high ability to generate mental imagery.

3(a) Narrative transportation

3(b) Identification with Gabriel

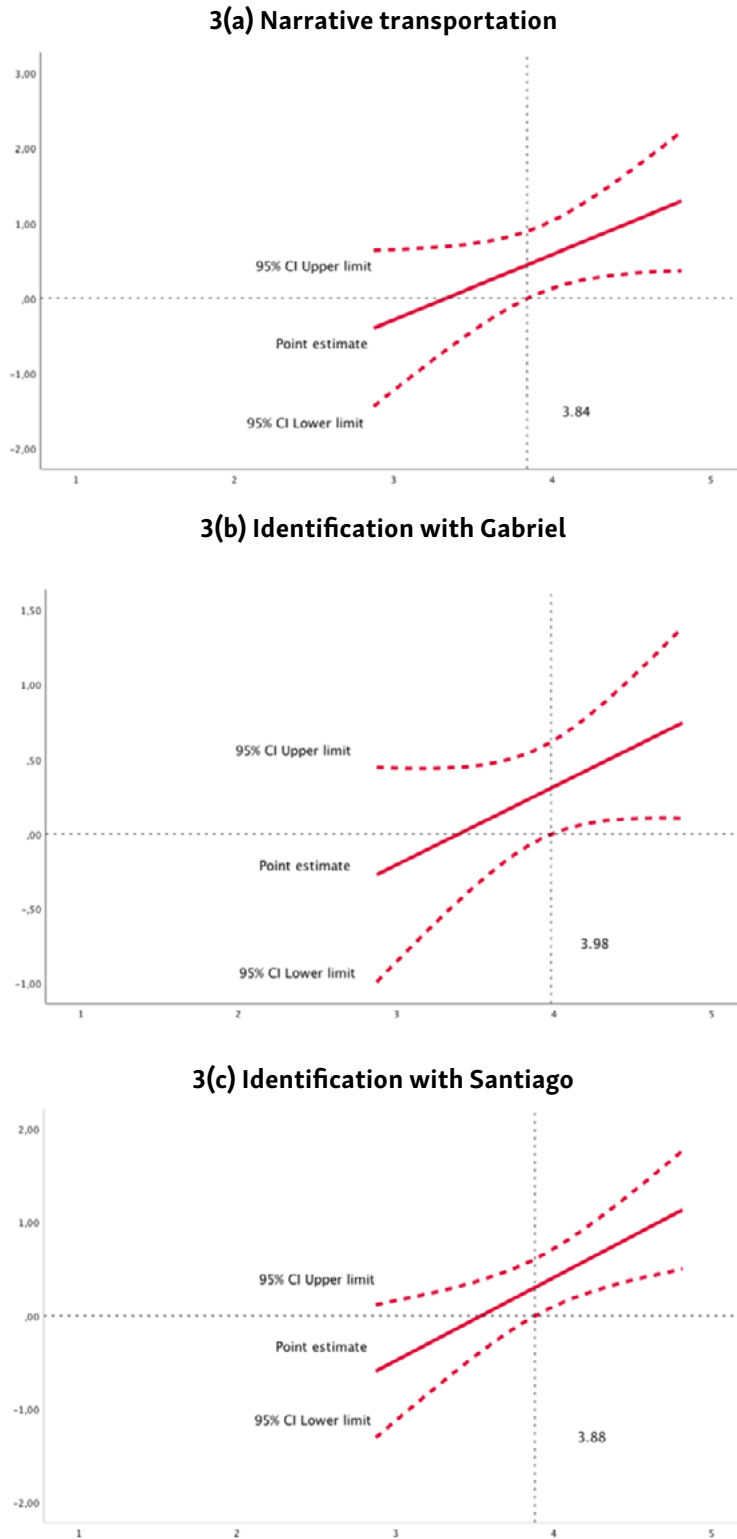### 3(c) Identification with Santiago

Figure 3. Johnson-Neyman's regions of significance for the conditional effect of the stimulus modality on narrative transportation and identification at levels of mental imagery ability (model 1, PROCESS)

Source: Own elaboration.

Hypothesis 2: conditional indirect effects of message modality on behavior intention

The posed H2 predicted that the effect of the message modality on behavior intention would be mediated by the narrative transportation (H2a) and the identification with the characters (H2b), but that this effect would be conditioned by the moderating effect of the ability to generate mental imagery. To contrast this hypothesis, it was also used the macro PROCESS (version 3.4) by Hayes (2018), using model 7 (moderated mediation). The results of the conditional indirect effects are shown in table 1.

The results showed that narrative transportation significantly influenced the intention to be tested for HIV (B=.25, p=.000). The conditional indirect effects through narrative transportation showed that the written message (compared to the audiovisual message), generated greater narrative transportation, which in turn led to a greater behavior intention. However, this effect only occurred among participants with moderate (*Effect*=.1289, *SE*=.0707, 95% *CI*[.0120, .2860]) or high ability to generate mental imagery (*Effect*=.2378, *SE*=.1065, 95% *CI*[.0668, .4767]).

It was also observed that identification with Gabriel's character significantly influenced the intention to be tested for HIV (B=.28, p=.002). Regarding the analysis of the conditional indirect effects through the identification with Gabriel, it is observed that the written message (as opposed to the audiovisual), generated greater identification with the character, which in turn led to a greater behavior intention. However, this effect only occurred among the participants with high ability to generate mental imagery (*Effect*=.1539, *SE*=.0760, 95% *CI* [.0297, .3253]). Moreover, the identification with the secondary character of Santiago significantly influenced the intention to be tested for HIV (B=.25, p=.009). Regarding the analysis of conditional indirect effects through identification with Santiago, it was observed that the written message (as opposed to the audiovisual) generated greater identification with the character, which in turn led to a greater behavior intention. However, this effect only occurred among the participants with moderate (*Effect*=.0836, *SE*=.0454, 95% *CI* [.0016, .1774]) or high ability to generate mental imagery (*Effect*=.1941, *SE*=.0883, 95% *CI* [.0427, .3817]).

Therefore, the evidence suggests that the written format was more efficient than the audiovisual format in stimulating the intention of preventive behavior in the participants with moderate and high ability to generate mental imagery and that this effect was explained by the increase in narrative transportation and identification with the characters, which supports H2.

	Conditional indirect effects		
	Effect	SE	LLCI ULCI
Conditional indirect effects through narrative transportation	.0200	.0907	[-.1752, .1948]
- Low ability to generate mental imagery	**.1289**	**.0707**	**[.0120, .2860]**
- Moderate ability to generate mental imagery			
- High ability to generate mental imagery	**.2378**	**.1065**	**[.0668, .4767]**
Conditional indirect effects through identification with Gabriel	.0039	.0702	[-.1575, .1290]
- Low ability to generate mental imagery	.0789	.0488	[-.0092, .1822]
- Moderate ability to generate mental imagery			
- High ability to generate mental imagery	**.1539**	**.0760**	**[.0297, .3253]**
Conditional indirect effects through identification with Santiago	-.0270	.0060	[-.1746, .0619]
- Low ability to generate mental imagery	**.0836**	**.0454**	**[.0016, .1774]**
- Moderate ability to generate mental imagery			
- High ability to generate mental imagery	**.1941**	**.0883**	**[.0427, .3817]**

Note. The table shows the conditional indirect effects. We used 95% percentile bootstrap confidence intervals based on 10,000 bootstrap samples for statistical inference of the conditional indirect effects. A conditional indirect effect is considered statistically significant if the established confidence interval (95% CI) does not include the value 0. If that value is included in the confidence interval, it means that the conditional indirect effects are equal to 0, i.e., there is no association between the variables involved (Hayes, 2018). Significant conditional indirect effects in bold.

Table 1. Conditional indirect effects of the message modality on the behavior intention. Moderated mediation model (Model 7 with PROCESS)

Source: Own elaboration.

DISCUSSION AND CONCLUSIONS

The results of this study confirm the role of mediating mechanisms such as narrative transportation and identification with characters in the processes of narrative persuasion in the field of entertainment-education. Thus, this study generates an original and innovative contribution because the results allow understanding the role of the ability to generate mental imagery as a moderating variable of the impact of message modality on the reception processes (narrative transportation and identification, in our case).

The results show that the ability to generate mental imagery enables greater narrative transportation and identification with characters when written messages are used (compared to audiovisual messages). Consecutively, it was also contrasted that the message modality does not generate a differential impact on the narrative transportation and the identification with the characters in people who show a low ability to generate mental imagery (hypothesis 1).

Secondly, our work helped to reveal some of the key items to the conflicting results of previous studies on the effect of modality on involvement with narrative messages and persuasive impact (e.g., Boeijinga et al., 2017; Green et al., 2008; Occa & Suggs, 2016; Walter et al., 2017; Winterbottom et al., 2012). The results of the previous studies had failed to observe the effects of the message modality by not considering the influence of individual difference variables. As verified in our work, the ability to generate mental imagery constitutes a variable that conditions (moderates) the effect of the message modality (written versus audiovisual) in processes such as narrative transportation and identification with characters.

Another relevant finding of this study is to have contrasted that the effect of the EE modality, explicitly designed for HIV prevention, constitutes a valid tool to stimulate the preventive behavioral intention and that the processes of narrative transportation and identification with the characters play a relevant mediating role. In this sense, it was also found that, regardless of the experimental condition, the ability to generate mental imagery correlated positively and significantly with narrative transportation ($r(107)=.29$, $p=.001$) and with identification of the characters (Gabriel, ($r(107)=.35$, $p=.001$; Santiago, ($r(107)=.24$, $p=.005$). Furthermore, it is even more important the fact that when the ability to generate mental imagery is high, people are transported more with the written story (than with the audiovisual version) and, also, they identify more with the characters of a written narration than with the characters in the audiovisual narrative.

Therefore, we conclude that in the study of the impact of entertainment-education narrative messages, the ability to generate mental imagery helps to explain the effect of the modality or format in which the message is delivered in the reception processes and, indirectly, in the intention of preventive behavior. The written message is more effective than the audiovisual one when people have moderate and high ability to generate mental imagery. It would be recommended that, in future research, the role of other individual differences that could condition the processes of involvement with the narrative messages of entertainment education continues to be investigated. In this regard, the results of our study suggest that, in the design of entertainment-education interventions, both the message modality and the characteristics of the people and, specifically, the ability to generate mental imagery are relevant.

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