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# Narrative formats for teenage pregnancy prevention. The effect of the narrative modality on preventive attitudes

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## Abstract

**Introduction:** The article analyses the effect of narrative persuasion and media literacy level on attitudes, knowledge, perceptions and behavioural intention in the reception of a short video created to prevent teenage pregnancy. **Methods:** 220 teenage girls participated in an experiment in which they answered a pre-test questionnaire measuring their critical skill to perceive sexualised content in the media as well as dependent variables. A month later, participants were randomly assigned to two experimental conditions: half of them watched a narrative video in testimonial format and the other half watched a narrative video in dialogic format. Afterwards, female participants filled out the post-test questionnaire. **Results:** The level of media literacy moderated the indirect effects of the testimonial narrative video on the perception of the risks of experiencing negative situations during teenage pregnancy. **Conclusions:** Results are discussed as an advance in the understanding of the processes of narrative persuasion in health.

## Keywords

Narrative persuasion; health communication; identification with characters; narrative transportation; media literacy; teenage pregnancy.

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## 1. Introduction

Currently, approximately 16 million girls aged 15 to 19 and 1 million girls under 15 give birth each year, most of them in developing countries (World Health Organization, 2018). This is the case of Ecuador, which occupies the first place in the Andean region and the second in Latin America (only behind Venezuela) in teenage pregnancy rates (Vásconez, 2016).

The factors that have been identified so far as having an important effect on unintended teenage pregnancy (hence UTP) are: lack of education and information on sexual and reproductive health; social expectations (stigmas, myths and false beliefs); sexual violence; gender and domestic violence; household poverty; family instability; migration, and machismo and marianism and the consequent gender inequality (Cherry & Dillon, 2014; Goicolea, Salazar, Edin & Öhman, 2012; Mendoza, Claro & Peñaranda, 2016; Panova, Kulikov, Berchtold and Suris, 2016).

However, the factors affecting UTP and its consequences form a circle that cannot be broken if children and teenagers are not fully educated in sexual and reproductive health. While campaigns and communication interventions for health can prevent the risks of UTP, explicit persuasion (which is present in traditional advertising) has been found to be not as effective as the influx of persuasive messages immersed in Entertainment-Education (Shen & Han, 2014).

The strategy of Entertainment-Education is used to persuade audience members while they consume entertainment. Educational content immersed in messages intended for entertainment can influence behaviour and promote, for example, safe sex (Moyer-Gusé, 2008; Singhal, Cody, Rogers & known, 2004).

Braddock and Dillard (2016), in a meta-analysis, showed that the use of narratives has significant effects on attitudes ( $r = .19$ ) beliefs ( $r = .17$ ), behavioural intention ( $r = .17$ ) and behaviour ( $r = .23$ ).

Research on narrative persuasion has identified a number of mechanisms that explain the impact of messages in Entertainment-Education. In particular, it has been found that identification with characters and narrative engagement or transportation are the most relevant mechanisms because both of them reduce the possibility of counterarguing and resistance which favours persuasion (Busselle & Bilandzic, 2009; Igartua, 2017; Moyer-Gusé, 2008).

Identification with characters is defined as a cognitive-affective process that takes place during the reception of a narrative message and is related to cognitive empathy (putting oneself in the character's shoes), emotional empathy (feeling the same emotions as the character) and feeling of becoming the character (Cohen, 2001; Igartua, Wojcieszak, Cachón-Ramón & Guerrero-Martín, 2017; Moyer-Gusé, 2008).

On the other hand, engagement or narrative transportation has been conceptualised as a mental process that generates in the viewer the feeling of being lost in the story or being present in the narrative instead of being in the real world (Busselle & Bilandzic, 2008; Green & Brock, 2000).

In recent years, it has been shown that identification with characters plays an important mediation role. Several studies have documented the relationship between identification with characters and the effects related to attitudes, behaviours and self-conception (De Graaf, Hoeken, Sanders & Beentjes, 2012; Hoeken & Fikkers, 2014; Igartua & Vega, 2016; Moyer-Gusé, Chung & Jain, 2011; Murphy, Frank, Chatterjee & Baezconde-Garbanati, 2013). In addition, meta-analysis has shown that engagement or narrative transportation causes positive effects on beliefs, attitudes and behavioural intention in accordance with the narrated story (Van Laer, De Ruyter, Visconti & Wetzels, 2013).

Therefore, this study seeks to contrast how the presentation format of an educational message in an audiovisual narrative designed to prevent teenage pregnancy (dialogues between characters versus testimonies) increases identification and narrative transportation and can have an indirect effect on attitudes, perceptions, knowledge and preventive behavioural intention. Secondly, to this approach we have added an element that can condition this process: the level of media literacy, defined as a critical skill that allows viewers to perceive, in this case, the sexualised management of advertising and media content and representations (Austin et al., 2002; Pinkleton, Austin, Cohen, Chen & Fitzgerald, 2008).

### **1.1. Narrative persuasion in health**

A narration is defined as: “a representation of connected events and characters, with an identifiable structure, limited in space *and time*, and containing implicit and explicit messages about the topic that is addressed” (Kreuter et al., 2007, p. 222). Narratives focus on specific characters and events in a particular environment (De Graaf, Sanders & Hoeken, 2016), which differentiates them from informative messages, which are more abstract and general, include rational arguments, objective information and logical reasoning (Lemma & Van den Bulck, 2010). Stories have often been associated with entertainment, “but they can also be used to convey serious information ranging from business policies to health tips” (Green, 2008, p. 47).

A systematic review of 153 experimental studies on health-related narrative persuasion showed the efficacy of the use of narratives in this context. In addition, the results showed that narratives that contain a high volume of emotional content have a stronger attitudinal impact (De Graaf et al., 2016).

Based on this premise, Balint and Bilandzic (2017), in their analysis of the results of several meta-analyses and the latest empirical findings, mention that while narratives are effective in influencing health outcomes, the effects are small and depend on various mediators and moderators. Therefore, the authors urge us to continue to identify which variables enhance the effect of narrative persuasion.

In fact, research on the impact of narratives on health has received special attention in recent years, in issues such as organ donation (for example: Appel & Richter, 2010), over-the-counter drug use (Kim

& Shapiro, 2016), sunscreen use (Dunlop, Wakefield, & Kashima, 2010), alcohol consumption (Gebbers, Wit & Appel, 2017; Moyer-Gusé, Jain & Chung, 2012; Zhou & Shapiro, 2017) and HPV prevention (for example: Murphy *et al.*, 2013; Nan, Futerfas & Ma, 2017), among others.

It should be noted that research on educational sexual health messages immersed in entertainment television series for young people have had positive effects on preventive attitudes, knowledge and behavioural intention in healthy sexual conduct (Igartua & Vega, 2016; Moyer-Gusé *et al.*, 2011; Moyer-Gusé & Nabi, 2010). Likewise, several studies have shown that health narratives can be especially effective for socially disadvantaged target groups, such as viewers with a low education level (Murphy *et al.*, 2013) or low socioeconomic level (Yoo, Kreuter, Lai & Fu, 2014). Therefore, the use of stories can be an alternative to prevent teenage pregnancy in developing countries.

## 1.2. Narrative voice and dialogic and testimonial narrative discourses

The features of the message and the audiovisual language can encourage audience members to identify more with characters and in doing so can increase the persuasive impact on health (Cohen, 2009; Cohen & Tal-Or, 2017). In this sense, this article proposes that the type of narrative discourse that is used to advance a story (through dialogues or testimonies) constitutes a relevant variable to increase identification and narrative engagement.

In a narrative format where the story develops through dialogues, characters have the ability to interact directly with each other and exchange information. In this way, viewers witness a conversation in which each character exposes its point of view, since “in a dialogue, the roles of the sender and receiver are not assigned, but interchangeable; we can talk about interlocutors, instead of a speaker and a listener” (Garcia, 1998, p. 224).

Through the approach of Entertainment-Education, the dialogues of protagonists of short features and television series have been used to strategically include messages that promote healthy behaviours or raise awareness about the consequences of risky sexual behaviours (Igartua & Vega, 2016; Moyer-Gusé & Nabi, 2010; Murphy *et al.*, 2013).

When story advances through testimonies, the speaker is the only witness of the narrated events. Testimonies can also be considered a form of narrative communication as they involve the spectator or reader and evoke empathy and identification with the character who narrates the story (Keer, Van den Putte, De Wit & Neijens, 2013). In this way, although the testimony does not involve interaction or physical contact between characters (unlike dialogue), its explicit intention is to provide proof, justification or verification of the certainty of a previous event (Prada, 1986).

The findings of empirical studies have demonstrated the efficacy of the use of testimonials in the fields of communication and health. For example, de Wit, Das and Vet (2008) compared the effects of a testimonial narrative message to encourage vaccination against hepatitis B among the homosexual public, in comparison to the same information presented in a statistical format. It was confirmed that the testimonial message, compared with the statistical evidence-based message, increased the perception of risk and the intent to get vaccinated to a greater extent.

One of the characteristics of the testimony is the use of the first-person narrative voice. The narrative perspective or voice determines how story communicates to the audience (Kim & Shapiro, 2016).

Therefore, if the story is told from the point of view of the protagonist, as in the case of a testimony, the first-person narrative voice is used primarily when the protagonist exposes what he thinks or feels.

Indeed, the narrative voice is one of the characteristics of the message that has been the most successfully manipulated. A systematic review of 17 studies validates the effectiveness of the use of the first person narrative voice, since the results showed that the studies that employed it were twice as likely to have an effect on health-related decision-making (Winterbottom, Bekker, Conner & Mooney, 2008). Moreover, the results of the review carried out de Graaf *et al.* (2016) show that the narratives with a first-person perspective are more effective in the context of health.

Another audiovisual element used in testimonial narrative formats is direct address or the “breaking the fourth wall”. This happens when the speaker, who gives his testimony, looks directly at the audience. In this regard, Cohen and Tal-Or (2017) point out that direct addressing can be a predictor of identification with characters, of parasocial interaction and parasocial relations. In this sense, Auer (1992) verified the effect of direct address by creating two versions of the comedy show *Burns & Allen* with and without direct address. The version with direct address generated greater parasocial interaction with characters, compared to the other version that had those scenes edited out.

Therefore, this study argues that direct address alongside the first-person narrative voice are key features that make a video with testimonial narrative format more effective, in comparison to the dialogic narrative format, due to the potential of the former to increase identification with the protagonist and narrative engagement.

### **1.3. Media literacy in communication and health**

Currently, experts urge us to research more about the factors that affect or moderate the mediational processes in the effect of the narratives on health on perceptions, attitudes and behaviours (Braddock & Dillard, 2016; de Graaf *et al.*, 2016; van Laer *et al.*, 2013). The variables that condition or moderate these processes usually are some stable traits of the behaviour (e.g., age, gender) or the context (e.g., educational level of parents) (Ato & Vallejo, 2011).

In this sense, some studies have examined whether communication with parents, acculturation level and literacy level in health condition the effect of narratives on the prevention of risky sexual behaviours and their consequences (Aubrey, Behm-Morawitz & Kim, 2014; Behm-Morawitz, Aubrey, Pennell & Kim, 2017; Walter, Murphy, Frank & Baezconde-Garbanati, 2017). This study aims to identify whether the level of media literacy can condition such process.

The level of media literacy is an individual property of individuals and, therefore, this feature may increase or decrease the indirect effect of prevention videos on attitudinal impact through identification with characters and narrative engagement.

Media literacy is defined as a person’s skill to access, analyse, evaluate and critically understand media messages, as well as communicate and produce messages in a wide variety of forms and platforms, which can range from print media to social networks (Aufderheide, 1993; Austin, 2014; Koltay, 2011).

In the field of Health Communication, media literacy is linked to the development of skills to critically examine media messages and make effective use of them when it comes to make health-related decisions (Austin, 2014). Those who teach media literacy aim to provide teenagers with the necessary

critical thinking skills to cope with the negative impact of commercial advertising and the media in general, which through its narratives and representations can lead teens to risky behaviours (Austin & Pinkleton, 2016; Bergsma & Carney, 2008).

Studies on the impact of media literacy interventions have shown that the same mechanisms that explain the narrative impacts on health, such as identification with characters, the desire to be like characters, similarity with character and perceived realism, can cause an increase in consumption of alcohol, tobacco and risky sexual behaviours (Austin, Pinkleton, Chen & Austin, 2015; Austin, Pinkleton & Funabiki, 2007; Pinkleton, Austin, Chen & Cohen, 2013; Pinkleton, Austin & Vord, 2010).

So the results of media literacy interventions in health have demonstrated that teenagers with a high level of training are able to perceive representations designed to sell products and services by reducing or eliminating the impact that this would have on decision-making, for example, on the consumption of Tobacco (Austin *et al.*, 2007; Primack, Douglas, Land, Miller & Fine, 2014), Alcohol consumption (Austin *et al.*, 2002; Hoffman, Austin, Pinkleton & Austin, 2017) and risky sexual behaviour (Austin *et al.*, 2015; Pinkleton *et al.*, 2013).

Interventions aiming to teach media literacy provide students with necessary knowledge to produce prevention messages using personal narratives and experiences. It has been found that young people with the input of more expert individuals can create effective persuasive messages (Banerjee, Greene, Hecht, Magsamen-Conrad & Elek, 2013; Miller-Day & Hecht, 2013; Slater, 2013).

In short, Jeong, Cho and Hwang (2012), through the results of a meta-analysis of 51 interventions, indicate that media literacy intervention programmes are as effective as traditional health interventions ( $d = .37$ ). In addition, they produce desired results in the knowledge of media and advertising, in the understanding of the persuasive intent of advertising, in scepticism towards media messages, in perceived realism and other similar results.

#### 1.4. Media literacy scale

Empirically tested explanations on the importance of media literacy in the field of health have been founded mainly in cognitive social theory, inoculation theory, the model of cognitive processing of media literacy and the model of the message interpretation process (MIP), developed by Austin *et al.* (2002).

In this study, the MIP was used for the development of the scale to measure the level of media literacy. The MIP focuses on how individual interpretations of messages can lead to the adoption or rejection of the content or purpose of the message (Austin *et al.*, 2002).

The original scale developed in the model measures five dimensions that intervene in the message interpretation process: perceived influence of the media, perception of myths in the media, perceived desire, effectiveness, social norms and expectations. The scale can be used with its six dimensions or only with one dimension, depending on the interests of each research. For example, Austin *et al.* (2015) used only the subscale that measures the perceived desire for their study on the effects of media literacy on the reduction of the attractiveness of sexual representations. While Pinkleton *et al.* (2008) used the full scale in studies that measured the pre and post media literacy level when applying an intervention evaluating a study programme in “literacy in media with sexual content”.

Finally, the scale we use measures three subdimensions of the evaluation of media literacy: perceived media influence, perceived myths in the media and perceived desirability. The other two dimensions were discarded because they are used to measure the impact of a media literacy intervention and this is not the aim of our study.

In short, the three subscales measure teens' perceptions regarding the underlying sexual messages in the media, about myths and facts about sex. In addition, they measure how teens perceive programmes that suggest that popular people are those that have sex, that there are no consequences for having risky sex, that teens are sexually active and how sexualised media representations make the interpretation of media content more attractive or desirable (Pinkleton *et al.*, 2008). In this sense, our study will measure the level of education in media literacy focused on the critical skills of teenagers to interpret sexual content in the media.

However, our study measures the level of media literacy that teenage participants have when answering the pre-test questionnaire. Therefore, it is presumed that the acquired skills they report in the questionnaire have been acquired in their context (school, home).

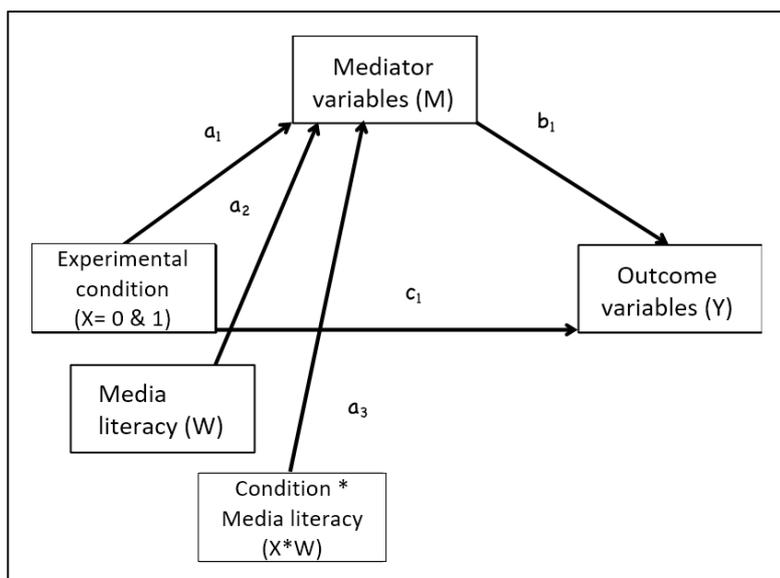
Some research on the current state of the education in media literacy in Ecuador point out that despite some schools provide courses to develop critical skills to use correctly the media, students and teachers still have some shortcomings and limitations on the use of the media and new technologies (Rivera *al.*, 2016; Rivera *et al.*, 2017).

It has also been shown that although internet access has improved in the country, the socio-economic characteristics of Ecuadorian households decrease access to this resource with the consequent decrease in the development of the critical skills of young people (Tirado, Mendoza, Aguaded & Marín, 2017).

### **1.5. Objectives and hypotheses**

Our research is guided by two objectives. The first one is to improve the understanding of how the characteristics of the message can enhance the impact of narrative persuasion in health. The second objective is to identify a possible variable that can condition the narrative process: the level of media literacy.

**Figure 1.** Hypothesised model (conditional analysis of indirect effects)



**Note:** Mediator Variables (M): Identification with characters and narrative engagement. Experimental condition (X): Dialogic narrative format (0) and testimonial narrative format (1).

Basically, the model of the study proposes (Figure 1) that the testimonial prevention message with its characteristics that empower it against the dialogic format (direct address first person narrative voice) will exert an indirect effect on the dependent variables considered in the study and that such effect will be explained by identification with characters and narrative engagement. However, this mediation process would only manifest among participants with a high level of media literacy, those who have the critical skills needed to take advantage of messages that are beneficial to them, especially if these messages are presented in the testimonial format whose qualities increase the effect of prevention narratives.

In this context, the following hypotheses were formulated:

H1: The testimonial narrative format (against the dialogic) provokes (a) greater narrative engagement and (b) greater identification with characters, which will incite greater perception of risk and vulnerability, an increase in knowledge, attitudes and prevention behavioural intention.

H2: The effect of the type of narrative format (testimonial vs. dialogic) in identification with characters and narrative engagement is moderated by the high level of media literacy of participants.

H3: The indirect effect of the type of narrative format (testimonial vs. dialogic) in knowledge (H3a), perceptions (H3b), attitudes (H3c) and preventive behavioural intention (H3d) through narrative engagement and identification, will be moderated by the high media literacy level of participants.

## 2. Methods

### 2.1. Design and participants

The experimental research involved 220 teenage women aged 15 to 19 ( $M= 16.05$  years,  $SD= 0.88$ ) belonging to a low socioeconomic level. Female students completed, first, the pre-test questionnaire containing the scale that measured the level of media literacy, the previous measures of attitudes, knowledge, perception of risk and vulnerability and behavioural intention. Demographic variables were also measured in the pre-test. The instruments used to measure variables are detailed in section 2.4.

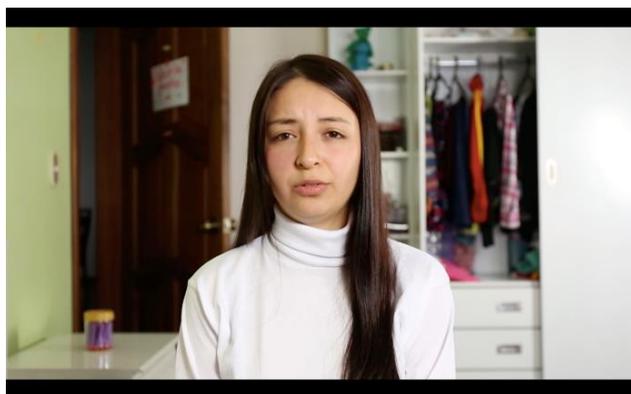
A month later, the 220 female students were randomly assigned to two conditions (testimonial narrative video and dialogic video). After the short viewing, the post-test measures were presented to evaluate identification with characters and narrative engagement. In addition, outcome variables were also included: behavioural intention, knowledge, attitudes, perception of risk and vulnerability.

### 2.2. Materials: manipulation of independent variables

The two videos used in the study were produced specifically for this purpose and are titled “What we don’t think”. The short video narrates the story of Jessica (provisional role model), who had unprotected sex with her boyfriend. Claudia (positive role model) questions her friend’s behaviour and convinces her to go to the health centre together. The video also features Claudia’s mother, Anita (transitory role model as she was a teen mother), who narrates her experience and advises the two teenage girls on how to prevent UTP.

The protagonists of the video represent roles of conduct that allow achieving the objectives identified in the approach to Entertainment-Education. Negative role models traditionally coexist in entertainment narratives with positive role models, that is, characters who participate in socially desirable behaviours and are rewarded for it, and with transitory models, i.e., characters who initially exhibit socially undesirable behaviours, but transition to a positive behaviour in the course of the narrative (Bandura, 2004; Known, 2004; Singhal et al., 2004).

**Figure 2.** Narrative format with testimonials



**Figure 3.** Narrative format with dialogues



However, to manipulate the way of telling the story two scripts were created. In them, the narrative voice, the viewpoint and the interaction between characters was modified. The testimonial format alternates scenes in which protagonists give their testimony and expose their point of view about the situations narrated in the story. On the other hand, in the dialogic format, protagonists talk to each other and express their opinion for or against each other.

The testimonial format uses direct address, i.e., each protagonist speaks directly to the spectator (see Figure 2), while in the dialogic format angles and shots vary according to the interaction of protagonists (see Figure 3). The two videos designed to prevent UTP have the exact same duration (8' 41''), and both contain the same number of prevention messages.

### 2.3. Pilot and validation studies

Two pilot studies were conducted: the first one to choose the protagonists and the second to determine whether the manipulation of the format was effective. To carry out the first pilot study we used a sample of students ( $N = 30$ , aged 15 and 16) who ranked the actresses (through photographs) in terms of attractiveness, appearance, honesty, responsibility and congeniality (with scales ranging from 0 to 10). The three photographs that obtained the best scores in these variables were selected.

A second sample of teenage students ( $N = 40$ , aged 15 and 16) was used to determine whether there were differences between the two narrative formats in the following items: “the message is clear and understandable”, “the message is credible” and “the message is interesting” (from 1= completely disagree, to 7= completely agree). No meaningful differences were observed in the three variables. In addition, participants were asked to answer: “To what extent do you consider you have some things in common with Claudia?” and with “Jessica?” (from 0= nothing to 10= much). No significant differences were found across format type. However, the average similarity with the character of Claudia was higher ( $M= 6.92$ ,  $SD= 2.33$ ) than the average similarity with Jessica ( $M= 1.50$ ,  $SD= 2.13$ ). The difference was statistically significant [ $t(39) = 9.542$ ,  $p < .001$ ]. This result was expected because Claudia is the positive role model (health agent), while Jessica is the transitory role model, who goes from negative to positive behaviour at the end of the story.

## 2.4. Instrument and variables

The pre-test questionnaire measured the outcome variables, the sociodemographic variables and the level of media literacy. The post-test measured the reception variables, plus the dependent and sociodemographic variables.

**Media Literacy:** We assessed it using the scale developed by Pinkleton et al. (2008). The first dimension made up of three items measured the influence perceived in the media (for example, «media messages affect the way boys and girls in my school think about sexual behaviour» going from 1 = totally disagree, to 7= totally agree,  $\alpha = 0.56$ ,  $M = 4.23$ ,  $SD = 1.23$ ). The second dimension measured the myths perceived in the media through four items (for example, «TV characters make it seem like most teenagers are having sex»,  $\alpha = 0.80$ ,  $M = 4.17$ ,  $SD = 1.30$ ) and finally, the third dimension measured the perceived desirability of the sexual images used in the media through four items (for example, «when people in ads act sexy, it makes the products more interesting to me»,  $\alpha = 0.78$ ,  $M = 2.69$ ,  $SD = 1.18$ ).

As we can see, the average of the dimension that measured the perceived desirability was the lowest as expected, as it alludes to the fact that advertising uses sex to sell. Therefore, when participants disagree, they show that they perceive the manipulation of sexualised advertising.

**Risk perception.** It was measured with statements such as: How likely is it for you to experience the following situation in a teenage pregnancy: “difficulty to complete your studies” (from 1 = very unlikely, to 10 = very likely). A factorial analysis of major components extracted three factors that were defined as: socioeconomic risk (3 items; pre-test:  $\alpha = 0.59$ ,  $M = 6.26$ ,  $SD = 2.00$ ; post-test:  $\alpha = 0.73$ ,  $M = 6.50$ ,  $SD = 2.24$ ), risk in health and study (3 items; pre-test:  $\alpha = 0.65$ ,  $M = 6.96$ ,  $SD = 2.01$ ; post-test:  $\alpha = 0.82$ ,  $M = 7.44$ ,  $SD = 2.12$ ) and risk related to stigmas, myths and false beliefs about UTP (4 items; pre-test:  $\alpha = 0.51$ ,  $M = 5.93$ ,  $SD = 1.74$ ; post-test:  $\alpha = 0.63$ ,  $M = 5.84$ ,  $SD = 1.89$ ).

**Knowledge:** It was measured with a scale developed by Ubillos (1995), made up of 7 items that assessed knowledge of how pregnancy occurs. For example: A girl can get pregnant if “her partner only introduces the glans” (true = 1, false = 0, and Don’t know = 2).

**Attitudes towards appropriate sexual behaviours:** This scale measured attitude such as: how appropriate is it “to have sex without using a condom because your lover does not like it” (from 1 = very inappropriate, to 5 = very appropriate). Based on an exploratory factor analysis, we developed a scale consisting of six items and with a reliability of:  $\alpha = .81$  in the pre-test and:  $\alpha = .83$  in the post-test. We proceeded to create a measurement index for the pre-test ( $M = 4.41$ ,  $SD = 0.64$ ) and the post-test ( $M = 4.64$ ,  $Dt = 0.56$ ).

**Perception of vulnerability:** It was measured with a purpose-created scale of four items that measured, for example, how likely is it for you “to get pregnant if you have sex once or twice without any form of control (condom or contraceptive)” (from 1 = very unlikely, to 7 = very likely). The exploratory factor analysis extracted only one component in the pre-test ( $\alpha = 0.64$ ,  $M = 4.92$ ,  $SD = 1.49$ ) and the post-test ( $\alpha = 0.70$ ,  $M = 5.03$ ,  $SD = 1.40$ ).

**Behavioural intention:** Three items were developed to measure it. For example: “I intend to talk to my parents or a close relative (grandparents, uncles) about how to prevent a pregnancy” (from, 1 = totally disagree, to 7 = totally agree). We conducted an exploratory factor analysis and detected only one component as a result in both the pre-test ( $\alpha = 0.77$ ,  $M = 4.80$ ,  $SD = 1.80$ ) and the post-test ( $\alpha = 0.83$ ,  $M = 4.76$ ,  $SD = 1.70$ ).

**Sexual Experience:** It was measured with the *Petting* scale, which consists of five stages ranging from “I have had no physical contact” to “I have had sex”. An index of sexual experience (the sum of the five stages) was created.

The following sociodemographic measures were also included in the questionnaires about sexual experience: age, family structure (whether they live with their mother and father, only the mother or father, another family member or guardian), the person they talk to about sexuality, and whether their mother was a “teen mum”.

**Identification with characters:** It was assessed with a scale developed by Igartua & Barrios (2012), composed of 11 items (for example: «I have been emotionally engaged with Claudia’s feelings», «I have felt as if I were Claudia»; 1 = Nothing, 5 = much). The same was measured in relation to the three protagonists: Claudia ( $\alpha = 0.89$ ,  $M = 3.05$ ,  $SD = 0.83$ ), Jessica ( $\alpha = 0.89$ ,  $M = 2.48$ ,  $SD = 0.80$ ) and Anita ( $\alpha = 0.88$ ,  $M = 2.52$ ,  $SD = 0.76$ ).

**Narrative engagement:** It was assessed with a scale developed and validated in previous studies (Busselle and Bilandzic, 2009; Green and Brock, 2000; Tal-Or and Cohen, 2010, and Williams et al., 2010). It consists of six items that measure the degree of narrative engagement or commitment (for example: «I was mentally involved in the video I was watching», «I would like to know how the story ends», «What happened in the video affected me emotionally»; from 1 = totally disagree, to 7 = totally agree;  $\alpha = 0.70$ ,  $M = 3.91$ ,  $SD = 1.20$ ).

### 3. Results

#### 3.1. Preliminary analysis

First of all, the results indicate that there was no statistically significant difference between the two experimental groups in terms of sexual experience [ $t(218) = 0.976, p = 0.330$ ]. However, there was a statistically significant difference in the age variable [ $t(218) = 2.466, p = 0.014$ ]: participants who watched the dialogic format ( $M = 16.19, SD = 0.92$ ) were a little older than those who watched the testimonial format ( $M = 15.90, SD = 0.07$ ). Therefore, the analyses conducted to test the hypotheses considered age as covariable, but it did not influence any results.

In the same way, the measures of the dependent variables were contrasted (behavioural intention, attitudes, knowledge, perception of risk and vulnerability) in both groups. The results indicate that there were no statistically significant differences. Therefore, in general terms, it can be noted that randomisation was correct.

Secondly, the results confirmed the efficacy of the experimental manipulation, which was validated with the variables of the reception process that were considered in the hypotheses. The independent samples Student's-t test was conducted and, against our expectations, the manipulation of the narrative format did not influence identification with protagonists [ $Claudia = t(190.799) = -1.37, p = .174$ ;  $Jessica = t(205) = 1.08, p = .281$ ;  $Anita = t(211) = -0.04, p = .966$ ], nor narrative engagement [ $t(205) = -0.56, p = .572$ ].

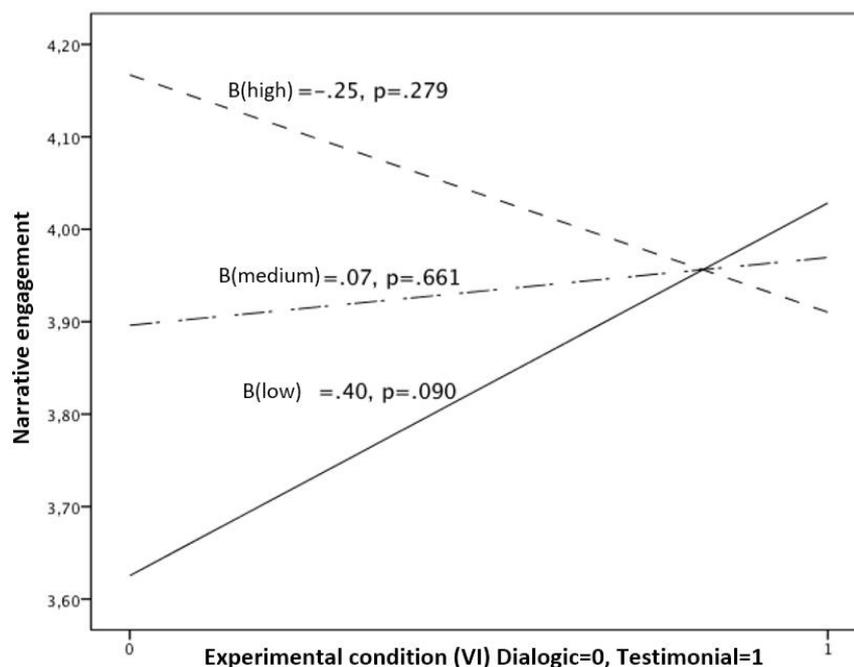
#### 3.2. Mediation analysis: Effect of testimonial (vs. dialogic) narrative format

The mediation analysis using PROCESS macro model 4, developed by Hayes (2013, 2018), failed to confirm H1 a and b, as the testimonial narrative format (versus dialogic) did not have any indirect effect on the perception of risk and vulnerability, in knowledge, attitudes and prevention behavioural intention, through narrative engagement and identification with characters.

#### 3.3. Media literacy level as moderator of the narrative process

With regards to the contrast of hypothesis 2, the analysis indicates that the video with testimonial narrative format caused an increase in narrative engagement among participants with a low level of media literacy ( $B = 0.40, p = .090$ ) (Figure 4), but the result is marginally statistical.

**Figure 4.** Interaction of how media literacy interferes with video type and narrative engagement



**Note:** The figure shows non-standardized regression coefficients, B.

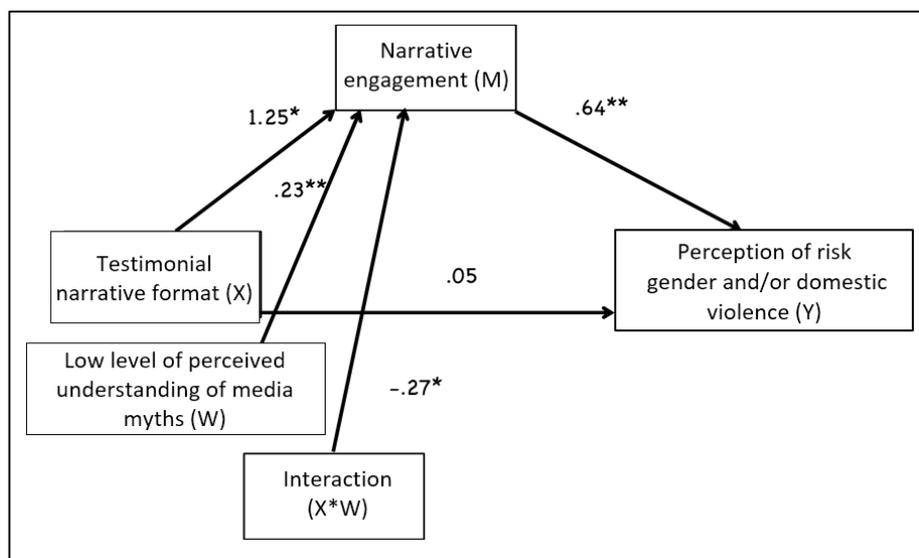
The analysis did not find a moderation effect between the type of narrative format and the process of identification with characters. Therefore, hypothesis 2 was partially confirmed, as the testimonial format was more effective than the dialogic one. However, it had been hypothesised that teenagers with a high level of media literacy would be the ones who would increase the values of the variables of the narrative process.

### 3.4. Analysis of conditional indirect effects

Hypothesis 3 was contrasted using PROCESS macro model 7, which allows testing models for conditional processes of indirect effects. The results showed that the testimonial format induced greater engagement than the dialogic format ( $B = 1.25, p < .022$ ), which increased the perception of greater risk of facing situations of gender and/or domestic violence in teenage pregnancy ( $B = 0.64, p < .002$ ).

However, the existence of an interaction effect between the type of narrative format and the level of media literacy obtained in the second dimension that measured «the perceived understanding of sexual myths the media» ( $B = -.27, p < .028$ ) determined that the only conditional positive and statistically significant indirect effect occurred in teenagers with a low perception of sexual myths in the media ( $B = .31, SE = 0.20, 95\% IC [.019, .888]$ ; moderated mediation index =  $-0.17, SE = 0.10, 95\% IC [-.472, -.022]$ ). (Figure 5).

**Figure 5.** Analysis of conditional indirect effects



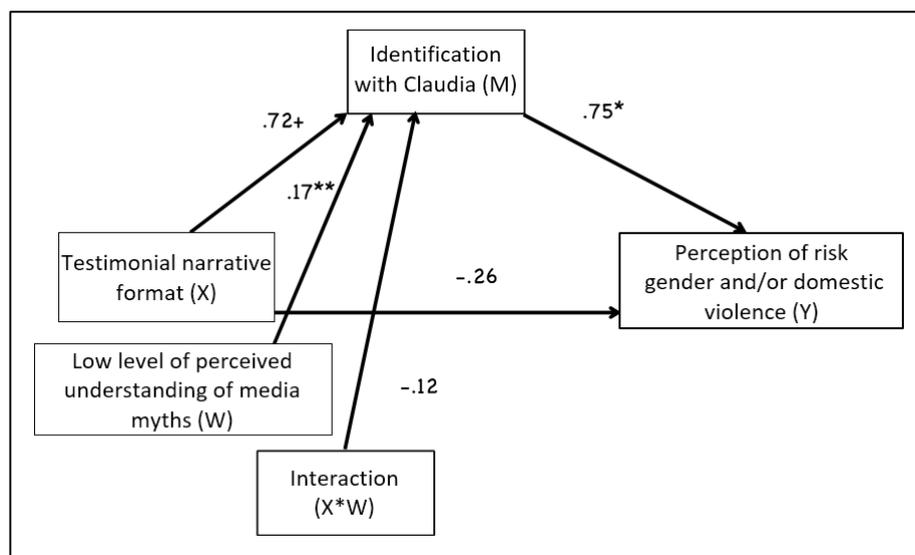
**Note:** The figure shows non-standardized regression coefficients, B. \*  $p < .05$  \*\*  $p < .01$ , \*\*\*  $p < .001$ .

These results suggest that the testimonial format (versus the dialogic one) increased the risk perception by inducing a high narrative engagement, but exclusively in people with a low level of media literacy.

Moreover, PROCESS macro model 7 allowed us to observe that the testimonial format also induced greater identification with the character of Claudia (positive role model) ( $B = .72, p < .061$ ), which caused the perception of greater risk of facing situations of gender and/or domestic violence during teenage pregnancy ( $B = 0.75, p < .013$ ).

However, the interaction effect between the type of narrative format and the level of perceived understanding of sexual myths in the media was not statistically significant ( $B = -.12, p = .172$ ), but it did induce a statistically significant conditional positive indirect effect in teenage girls with low level of perception of sexual myths in the media ( $B = .27, SE = 0.27, 95\% IC [.016, .628]$ ; moderated mediation index =  $-0.09, SE = 0.07, 95\% IC [-.246, .037]$ ). (Figure 6).

**Figure 6** Analysis of conditional indirect effects



**Note:** The figure shows non-standardized regression coefficients, B. +  $p < .1$  \*  $p < .05$  \*\*  $p < .01$ , \*\*\*  $p < .001$ .

These results indicate that the testimonial format (versus the dialogic one) increased the risk perception by provoking greater identification with Claudia, but again in teenage girls with a low level of media literacy.

Therefore, hypothesis 3b was partially confirmed. The theoretical and methodological implications of these findings are discussed below.

#### 4. Discussion and conclusions

This study confirmed by means of analysis of conditional indirect effects that the testimonial format proved to be more effective than the dialogic counterpart. In this sense, the results of our research converge with the findings on the efficacy of the narrative impact in the health context, and on the effectiveness of the first-person narrative voice and point of view, which are essential features of the testimonial narrative discourse (de Graaf *et al.*, 2016; de Wit *et al.*, 2008; Kim & Shapiro, 2016; Winterbottom *et al.*, 2008).

With regards to the other objective of the study, which was to check whether media literacy would condition the reception of the testimonial narrative format with the consequent increase in the values of the dependent variables. According to the results of our study, this new variable has indeed been shown to moderate the relationship between the testimonial narrative format and the risk perception, as well as the narrative engagement, which is one of the most important mechanisms of the reception process.

However, it had been hypothesised that teenage girls with a high media literacy level would be the ones to experience a greater narrative impact on health. However, the in-depth analysis of the implication of this result indicates that the prevention narrative had a positive effect in those who are actually part of the target audience of the study. That is, it is more important to know that the testimonial narrative format proved to be more effective in those who have a low perception of media myths, which suggests a lack of education in media literacy that may be related to an overall deficiency in their education level.

Indeed, this finding can find an explanation in the arguments of Kreuter *et al.* (2007) given that health narratives can be of particular use to audiences with low literacy levels and less self-efficacy to understand information, or to those who distrust medical authorities due to their cultural or economic difference.

This could also suggest that the socioeconomic characteristics of teenage girls plus their low level of media literacy led them to a greater engagement with the story and to a greater identification with one of the protagonists and therefore to increase the risk perception to experience negative situations in UTP, because they have probably already witnessed similar situations in their family and social environment. Studies point out that situations of gender or domestic violence associated with UTP tend to occur more often in households with low socioeconomic status (Contreras *et al.*, 2013; De la Torre *et al.*, 2015; Salinas *et al.*, 2014).

In fact, it is important to mention at this point that 35.5% of the participants live in a single-parent home and 34.4% indicated that their mother was a “teen mother”. Several studies point out that living with a single parent or having a mother who was a teen mum are often related to risky sexual behaviours (Goicolea, Wulff & Öhman, 2009; Mendoza *et al.*, 2016; Pantelides, 2004; Vásconez, 2016).

Moreover, the detection of the indirect effects of the testimonial narrative format in the outcome variables through greater identification and greater narrative engagement through the conditional process model suggests that engagement and identification have mediated the narrative impact of the testimonial format in the perception of risk of gender and domestic violence in UTP.

This result finds support, first of all, in the results of the meta-analysis of van Laer *et al.* (2013), who pointed out that greater narrative transportation (engagement) causes greater increase in outcome variables. Second, these findings are supported by research works that document the relationship between identification with character and positive effects in attitudes and behaviours (Igartua & Frutos, 2017; Igartua & Vega, 2016; Murphy *et al.*, 2013).

The limitations of our study include the failure to verify the main effect of the experimental manipulation on impact through mediator variables. While the two pilot studies confirmed that there were no biases in the two experimental conditions, and the preliminary analysis demonstrated that randomisation was correct, the main effect could not be demonstrated. However, we cannot underestimate the findings that indicate that the testimonial format is a good option to design health prevention narratives.

Another limitation may be the focus on narratives in audiovisual format because Tukachinsky (2014), in her meta-analysis of the effectiveness of the experimental manipulations of the mechanisms involved in the narrative process, found smaller effects in stimuli through videos than in stimuli in printed formats or video games. In other words, it is more difficult to achieve a narrative impact through videos than through written stories, which does not rule out their effectiveness, but highlights their limitations.

The challenge for future research is still to demonstrate which variables influence the potentiality of the mechanisms involved in that process. In other words, what induces to greater identification with characters and to greater narrative transportation.

In conclusion, our results constitute an advance in the knowledge of the processes of narrative persuasion in the context of health, as they have confirmed that the level of media literacy acts as a relevant moderator variable that conditions the effect of narrative formats in the processes of reception and attitudinal measures.

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