

The Narrative Within the Narrative: The Effectiveness of Narrative HIV Prevention Ads Depends on Their Placement Within a Context Narrative

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Audiovisual HIV prevention ads in a narrative format are an extensively used health communication strategy. However, if the ad is placed in the context of another narrative, it may create an unpleasant disruption and result in negative attitudes. We argue that the persuasive effects of narrative ads depend on the narrative properties of the context narrative and the narrative properties of the story used in the ad. To investigate this interaction effect, a 2 (context scene high versus low in narrativity) × 2 (HIV prevention ad high versus low in narrativity) experiment was conducted. Results demonstrate that interruptions in a scene that is high in narrativity are perceived as more disruptive and result in more negative attitudes toward the ad than interruptions in a scene that is low in narrativity. In a low-narrativity scene, a high-narrativity prevention ad increases narrative ad engagement, which in turn strengthens attitudes toward both the ad and HIV prevention.

Keywords: narrative engagement, ad intrusiveness, HIV prevention, ad effectiveness, narrative context

In *The 2030 Agenda for Sustainable Development*, the United Nations General Assembly (2015) resolved to end the AIDS epidemic by 2030. However, in the European Union and European Economic Area, the number of HIV infections per 100,000 citizens remains relatively stable (European Centre for Disease Prevention and Control & World Health Organization Regional Office for Europe, 2016). About 33% of HIV infections in Europe are still diagnosed at a late stage (European Centre for Disease Prevention and Control & World Health Organization Regional Office for Europe, 2016). Yet early diagnosis of HIV is crucial for the effectiveness of antiretroviral therapy (May et al., 2011; Siegfried, Uthman, & Rutherford, 2010). Additionally, statistical models suggest that about 30% of HIV-infected people in the European Union countries are still undiagnosed and may inadvertently infect others (Hamers & Phillips, 2008). Faced with a relatively low HIV prevalence rate, but relatively high rates of late detections and unknown infections, the primary aim of HIV prevention in Germany is to increase condom usage for sexual intercourse outside of stable relationships in the general population (Marcus, 2007). To reach broad parts of the German

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population, a comprehensive mass media strategy is realized by a network of national and regional partners under the direction of the German Federal Center for Health Education (Pott, 2007).

The Federal Center for Health Education has produced more than 90 HIV prevention ads that have been broadcast free of charge by public and private television channels in Germany (BZgA, 2017). Regarding the ads' design and placement strategy, two phenomena stand out. First, HIV prevention ads are often presented in a narrative format (Noar, Palmgreen, Chabot, Dobransky, & Zimmerman, 2009). Second, television ads are often embedded in narrative contexts (television series, films). While narrative ads in principle offer opportunities for audiences to engage with a story, they also interrupt engagement with the main story—that is, the program in which the ad is embedded (Wang & Calder, 2009). This means that two processes of engagement conflict with each other: The stronger the engagement with the main program, the more unpleasant should the perception of the disruption be, which in turn may preclude engagement processes with the ad and consequently lower the effectiveness of HIV prevention ads. However, narrative engagement processes during a television series or film are dynamic (Sukalla, Bilandzic, Bolls, & Busselle, 2015) and depend on the quality of film scenes as well as the ads to engage viewers.

This study tests the effect of placing a narrative HIV prevention ad (low or high in narrativity) in context scenes that differ in their engaging quality (high versus low in narrativity). We explore the interactions of narrative engagement in an HIV prevention ad and the scene type as well as the role of subjective experience of intrusiveness caused by the disruption of the film.

Effectiveness of Narrative HIV Prevention Ads

Narratives have often been discussed as a particularly effective form for health messages (Hinyard & Kreuter, 2007; Kreuter et al., 2007). This effect is explained by narrative engagement (Busselle & Bilandzic, 2009) or transportation (Green & Brock, 2000). Indeed, meta-analytic evidence indicates that narrative engagement is a crucial mediator in narrative persuasion (Tukachinsky & Tokunaga, 2012; van Laer, de Ruyter, Visconti, & Wetzels, 2014). By engaging with the plot and the characters in a story, viewers are able to vicariously experience social life (Bilandzic & Busselle, 2013). According to social cognitive theory (Bandura, 1986), vicarious experiences are a central means of observational learning. They are particularly useful for guiding real-life behaviors when a person lacks similar experiences (Bandura, 1998). Adolescents in HIV prevention messages who are using condoms for HIV protection may act as role models for young viewers (Storey et al., 2014). Narrative engagement with HIV prevention ads should enhance the effect of modeling because it allows viewers to understand the characters' inner thoughts and motivations (Busselle & Bilandzic, 2008). In addition, being engaged in a story is usually related to positive attitudes toward the story (Escalas, 2007; van Laer et al., 2014; Wang & Calder, 2006). However, meta-analyses find variations for narrative effects, depending on aspects such as media format, topic, or story used (Braddock & Dillard, 2016; de Graaf, Sanders, & Hoeken, 2016; Shen, Sheer, & Lee, 2015). Not all narratives studied in health communication are effective in influencing health-related attitudes or behaviors (for an overview, see de Graaf et al., 2016). Thus, the question arises about which elements of a health narrative are related to narrative engagement. A promising framework to differentiate the narrative quality of stories is the linguistic concept of narrativity, which

refers to the degree to which a story is narrative (Abbott, 2008; Fludernick, 2010; Prince, 1999). Bilandzic and Kinnebrock (2006) provide an overview of characteristics that enhance the quality of the story, the structure, and the discourse of narratives: Multiple storylines, lasting consequences, conflict, insights into character developments, and changing character relationships are elements of a good story that enable intense processing. A clear framework with autonomous units as well as an affective structure are relevant for determining the quality of a narrative structure. Regarding the narrative discourse, a dramatic mode and a high technical standard are relevant for the quality. Depending on the content of the story, combinations of narrativity factors may result in different viewing experiences. Regarding the structure of the narrative, variations in the affective structure may result in suspense or curiosity (Bilandzic & Kinnebrock, 2006).

Narrativity is different from narrative; the latter provides only a dichotomous classification and does not inform about the nature of the story. For example, the sentence "A person goes in a room, opens a pack of condoms, and puts a condom on the table" is a narrative in the minimal sense; it consists of a series of events (Abbott, 2008; Prince, 1973), but it is low in narrativity and consequently has a low quality to stimulate narrative engagement processes. Alternatively, a story high in narrativity is interesting and engaging for an audience (Bilandzic & Kinnebrock, 2006; Prince, 1999).

Ads Placed in Narrative Contexts: Intrusion of the Viewing Situation

The television program is the reason that viewers watch television and engage with the content in the first place. Ads may be embedded in such programs, but they are of secondary interest for viewers (Wang & Calder, 2006). From an economic perspective, commercial breaks that disrupt a program are regarded as more effective and are more expensive (in German television) than commercial breaks between programs (Karstens & Schütte, 2010). Although viewers often skip commercials that are placed between programs (Kent, 2013), they are less likely to change the channel or skip the commercial breaks that interrupt programs because they do not want to lose track of the show (Karstens & Schütte, 2010). From the perspective of the viewer, commercial breaks that interrupt the viewing experience represent a forced-exposure situation, comparable to placing pop-up ads on websites (Edwards, Li, & Lee, 2002). In general, viewers prefer to avoid commercial interruptions in television (Nelson, Meyvis, & Galak, 2009). Even if commercial breaks do not necessarily reduce the quality of the viewing experience (Nelson et al., 2009), they may be less effective than ads placed at the end of a message (Wang & Calder, 2006).

However, ad placements that disrupt a program are not necessarily ineffective; negative effects seem to depend on the engaging quality of the disrupted scenes (Wang & Calder, 2009). Several empirical studies indicate that ads placed in less involving context types (Gunter, Furnham, & Beeson, 1997; Lord & Burnkrant, 1988; Park & McClung, 1986) or in less engaging narratives (Chang, 2009; Durkin & Wakefield, 2008) are more effective than ads that are placed in intense narrative contexts. Similarly, Wang and Calder (2009) find that ad placements at the climax of a story lower attitudes toward an ad compared with ad placements at a less engaging moment—for example, at a natural break between two scenes. This may be explained with varying levels of narrativity that differentiate, for example, a slow scene from a climax scene. Similar to the engaging quality of an ad, the engaging quality of a context scene may be described with narrative elements used in the scenes. We assume that in scenes that are

high in narrativity, viewers are concentrating on the story and are less motivated to follow disrupting ads than in scenes that are low in narrativity. As a consequence, we assume negative effects on related attitudes.

H1: Placing an HIV prevention ad in a scene that is high in narrativity (compared with a scene that is low in narrativity) results in negative attitudes toward the ad (a) and negative attitudes toward HIV prevention behavior (b).

The cognitive perception of a disruptive situation that interferes with a person's goals in the viewing situation is defined as advertising intrusiveness (Edwards et al., 2002). Because an HIV prevention ad that is placed in a high-narrativity scene disrupts a more engaging viewing situation than does an ad placed in a low-narrativity scene, we assume that viewers perceive the ad in the high-narrativity scene as more intrusive. In a similar vein, Wang and Calder (2009) find that for a computer ad, perceived intrusiveness was higher for placements in the middle of a story (compared with placements between scenes) and when readers were transported into the story. In turn, advertising intrusiveness lowers advertising effects—for example, it decreases attitudes toward the product (Wang & Calder, 2009) or increases irritation by the ad as well as ad avoidance (Edwards et al., 2002). Building on these empirical results from consumer research, we assume:

H2: Placing an HIV prevention ad in a scene that is high in narrativity (compared with a scene that is low in narrativity) increases perceived intrusiveness, which leads to negative attitudes toward the ad (a) and negative attitudes toward HIV prevention behavior (b).

Narrative Engagement With the Context and the Ad: Two Conflicting Processes?

To explain the negative effects of ads placed in context scenes that are high in narrativity, we need to look closely at how audiences make sense of stories and how they engage with them. Generally, the process of understanding narratives is based in the notion that audiences construct mental models of the story (Johnson-Laird, 1983; Zwaan, Langston, & Graesser, 1995). If the process of constructing mental models goes smoothly, effortlessly, and automatically, viewers will experience *flow*, which is at the heart of narrative engagement (Busselle & Bilandzic, 2008). As an effortless, self-forgetting state of simply processing a narrative without having to think about required steps (Csikszentmihalyi, 1991), flow is generally perceived as an enjoyable sensation (Sherry, 2004). This construction and engagement process is more intense for stories high in narrativity (Bilandzic & Kinnebrock, 2006). Scenes with multiple open storylines, changes in character development, or interactions among characters occupy more cognitive resources and require viewers to focus more intensely on the narrative world (Busselle & Bilandzic, 2008). However, intense narrative engagement with scenes that are high in narrativity is assumed to negatively influence ad-related attitudes. When an ad interrupts the context story, viewers lose their cognitive and affective focus on the narrative—and their enjoyable experience of flow. In line with this idea, Wang and Calder (2006, 2009) find that transportation is negatively related to product attitudes when an ad is placed in the middle of a newspaper message or a television series. Thus, we assume:

H3: A scene that is high in narrativity (compared with a scene that is low in narrativity) increases narrative engagement with the context, but results in negative attitudes toward the ad (a) and toward HIV prevention behavior (b).

Based on the theoretical considerations, an interaction effect of the narrativity of the ad and the context scene seems plausible. Although an ad high in narrativity is more interesting and engaging for an audience than an ad low in narrativity, an HIV prevention ad that is low in narrativity with a simple and short plot is easier to understand and requires less cognitive resources than an ad that is high in narrativity. A context scene high in narrativity, in which the plot is dense and thus requires the viewers to keep up with events, changes in time, locations, and characters (Busselle & Bilandzic, 2008), the viewers' attention is fully focused on the context story (Bezdek & Gerrig, 2017). The strong focus on the context story corresponds to disengagement with the environment outside the narrative (Bezdek & Gerrig, 2017).

H4: The narrativity of the context scene and the narrativity of the HIV prevention ad interact. When placed in a context scene that is high in narrativity, an HIV prevention ad that is high in narrativity results in more negative attitudes toward the ad and toward the HIV prevention behavior than an ad that is low in narrativity. In a context scene that is low in narrativity, an HIV prevention ad that is high in narrativity results in more positive attitudes toward the ad (a) and toward the HIV prevention behavior (b) than an ad that is low in narrativity.

In general, high-narrativity ads enhance intense engagement processes with the prevention story. When an ad is placed in a scene that is low in narrativity, viewers have enough cognitive resources to concentrate on the story of the ad. Narrative engagement should then increase related attitudes, particularly for ads high in narrativity. However, placing an ad in a context scene that is high in narrativity forces the viewer's attention away from the context film and into the ad, which may not be welcome (Wang & Calder, 2009). Not only is the engagement with the film forcibly terminated (Edwards et al., 2002), the viewer is expected to engage with a completely new story. When disrupted during a scene that is high in narrativity, similar to a cliffhanger, viewers continue to elaborate the story and are interested in the ways in which it may continue (Poot, 2016; Smith, 2013) rather than engage with the new story in the ad. Given the negative experience of the disruption and the intense follow-up elaboration, placing an ad in a context scene high in narrativity is expected to impede narrative engagement with the ad. As a consequence, the positive effect of narrative engagement on ad-related attitudes is also diminished. Although an ad low in narrativity may be more easily processed even if cognitive resources are pulled from a context high in narrativity, viewers may not be able to understand an ad high in narrativity without engaging with the story of the ad. Thus, we assume that in a scene high in narrativity, a positive mediation effect of narrative ad engagement on attitudes will not be visible.

H5: In a context scene that is low in narrativity, HIV prevention ads that are high in narrativity (compared with ads that are low in narrativity) increase narrative engagement with the ad, which results in positive attitudes toward the ad (a) and toward HIV prevention behavior (b). The positive mediation relationship of narrative engagement with the ad is not visible in a context scene that is high in narrativity. In context scenes that are high in narrativity, narrative engagement with the ad is lowered, and attitudes toward the ad and toward the HIV prevention behavior are not affected.

Method

A 2 × 2 between-subjects design, varying the type of context disruption (scene high versus low in narrativity) and the narrativity of the HIV prevention ad (high versus low narrativity) was carried out.

Stimuli

The stimulus material consisted of two parts. Participants watched the beginning of the German short film *The Red Jacket* (Lichtenauer & Baxmeyer, 2002), which served as a context narrative. The film follows the journey of a dead boy's soccer jacket from Germany to Sarajevo by a Red Cross transport. In Sarajevo, a young boy becomes attached to the jacket and steals it out of a Red Cross van. The two scenes were selected based on a content analysis of the film scenes focusing on narrativity factors (lasting consequences, singularity, conflict, multiple possible storylines, transitivity of characters). In the scene low in narrativity, the film is disrupted when the boy runs away with the jacket into the rocky countryside. The scene is calm and most of the narrativity factors are absent. There are no multiple open storylines, the scene does not focus on lasting consequences or singular events, the scene does not include conflict, nor does it emphasize specific character developments. Thus, we assume that the scene is experienced as calm and not suspenseful. For the scene high in narrativity, the boy runs to his war-damaged home. Enemy troops have attacked his family, and they hold the boy at gunpoint when he arrives at his house. The film is disrupted at this moment of uncertainty and danger. In contrast to the scene low in narrativity, the scene high in narrativity emphasizes conflict (by showing the rebels attacking the boy's family) and lasting consequences for the boy (several houses are burned, the family is captured). Multiple storylines range from the death of the boy to a counterattack of United Nations soldiers rescuing the boy and his family. The dangerous threat for the boy is a singular (exceptional) event in the film. Additionally, the boy's family and the rebels interact in the scene. Because of the combination of the narrativity factors used in the scene and the specific content of the film, we assume that the scene is experienced as suspenseful.

The experiment was conducted with two different narrative HIV prevention ads. Both ads had been created for a contest sponsored by the German Federal Center for Health Education and had not been broadcast on German television or in German cinema. The ads are professionally produced and target adolescents and young adults. Following the central aim of the German HIV prevention strategy, both ads focus on the relevance of condom use for HIV protection among adolescents. One of the ads is low in narrativity, and the other ad is high in narrativity, which enables us to generalize the results to different types of stories used in HIV prevention messages. In the high-narrativity ad, a story unfolds about two boys who meet at home. Shortly after the two boys retreat to a bedroom, the father of one of the boys knocks on the door to hand the boys some condoms. The boys are embarrassed at first, but ultimately appreciate the father's effort and having the condoms. The low-narrativity ad presents a minimal story; it shows young people entering a room, one after the other, discovering a pack of condoms, opening the pack, and putting a condom on various objects, thus illustrating condom usage. Overall, the four combinations of film and ad lasted between 7:22 and 9:27 minutes.

Participants and Procedure

A total of 179 German students participated in the experiment. Twenty-one participants had seen *The Red Jacket* before and so were excluded from the data set. The final sample consists of 158 students (87 university students and 71 professional school students). To address the main target group of the HIV ads, the sample was limited to participants between ages 18 and 29 ($M = 21.11$, $SD = 2.41$). Seventy-two respondents were women, 86 men. The experiment was carried out during class time and took about 25 minutes to complete. The study was carried out in four classes at university and four classes at a professional school, each of which were randomly assigned to one of the four conditions: The film was either disrupted in a scene low or high in narrativity by one of the two HIV prevention ads. After presentation of the stimulus, we administered paper-and-pencil questionnaires. The study was approved by the local education authority and the school administration.

Measures

All items were measured on 7-point Likert scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The *attitude toward the ad* was measured with five items ("I found the ad attractive," "I have a positive impression of the ad," "I found the ad uninteresting" (reverse-coded), "I learned something from the ad," "I received new information from the ad") based on the Attitude Toward the Ad Scale by De Pelsmacker, Decock, and Geuens (1998), Cronbachs $\alpha = .73$. To measure *attitudes toward HIV prevention behavior*, participants were asked to indicate their agreement with three items ("When not using condoms, I feel highly vulnerable for becoming infected with HIV," "When I'm not using condoms, it is very likely that I will get infected with HIV," "Without using condoms, I feel very susceptible to an HIV infection") on the benefit of using condoms to reduce their risk of becoming infected with HIV, Cronbachs $\alpha = .73$. A scale for the *perceived disruption* was developed from Li, Edwards, and Lee's (2002) Ad Intrusiveness Scale. The items were translated into German and complemented by items on positive or neutral disruption experiences. After running reliability and factor analyses to examine the internal consistency of the scale, three items were dropped, leaving nine items (I perceived the advertisement as "annoying," "obtrusive," "interruptive," "necessary evil" [reverse-coded], "a disruption," "invasive," "penetrating," "a convenient break" [reverse-coded], "bothersome"), Cronbachs $\alpha = .83$. For measuring *narrative ad engagement* and *narrative context engagement*, we used the 12-item Narrative Engagement Scale developed by Busselle and Bilandzic (2009). To avoid confusion about whether the items refer to the ad or to the film, the items were adapted so that they had a clear reference (e.g., the item for the ad was formulated as "I had a hard time keeping my mind on the ad," and the same item for the context film was "I had a hard time keeping my mind on the film"). The introduction to the question emphasized that the following items should be answered by reflecting on the viewing situation of the ad or the film. All participants answered the items for narrative context engagement first and the items for narrative ad engagement second. The 12 items formed two internally consistent scales for narrative ad engagement (Cronbachs $\alpha = .78$) and narrative film engagement (Cronbachs $\alpha = .76$). Five items (e.g., "To what extent does this ad focus on specific, particular events rather than generalizations or abstractions?") of the Narrative Structure Coding Scale (Escalas, Moore, & Britton, 2004) were used to evaluate the extent to which narrative elements are recognized by participants in both ads, $M = 3.66$, $SD = 1.27$, Cronbachs $\alpha = .74$. To check for a successful manipulation of the narrativity of the context scene, the Narrative Structure

Coding Scale would not be useful, because the items could not be adapted to a single scene. Given the content of the film and the combination of narrativity factors used in the scenes, we instead measured suspense as the specific experience of narrativity relevant for the film. To measure *suspense*, participants were asked to indicate how much they experienced the scene before the ad disrupted the film as “fascinating,” “exciting,” “absorbing,” “suspenseful,” “slow-moving” (reverse-coded), “long-winded” (reverse-coded), and “thrilling” (derived from scales by Knobloch, Patzig, Mende, & Hastall, 2004; Wirth, Böcking, & In-Albon, 2006). All items were measured on a 7-point scale, $M = 4.40$, $SD = 1.23$, Cronbachs $\alpha = .84$. Additionally, participants were asked about prior exposure to the film and to the ad (since the ads were published on the website of the German Federal Center for Health Education) as well as their gender and age.

Results

Manipulation Check

An analysis of variance (ANOVA) revealed that the scene-type manipulation was successful, $F(3, 154) = 12.33$, $p < .001$. As expected, the scene high in narrativity ($M = 4.84$, $SD = 1.26$) was perceived as more suspenseful than the scene low in narrativity ($M = 3.93$, $SD = 1.00$), $F(1, 154) = 23.11$, $p < .001$. Another ANOVA provided evidence that the manipulation of the narrativity of the ad was also successful, $F(3, 154) = 35.74$, $p < .001$. As expected, the ad high in narrativity was rated higher in narrative structure ($M = 4.46$, $SD = 1.06$) than the ad low in narrativity ($M = 2.87$, $SD = .92$), $F(1, 155) = 98.73$, $p < .001$.

Hypothesis Testing

To test the assumed main effect of scene type on attitudes toward the ad (H1a) and attitudes toward HIV prevention behavior (H1b) as well as the interaction effects of ad type and scene type on attitude toward the ad (H4a) and attitude toward HIV prevention behavior (H4b), we conducted two ANOVAs. Separate analyses for both dependent variables were performed, since attitudes toward the ad and attitudes toward HIV prevention behavior are not correlated with each other ($r = -.08$, $p = .31$). In the first ANOVA, scene type and ad type were entered as independent variables and attitude toward the ad as the dependent variable, $F(3, 154) = 6.25$, $p < .001$. As H4a predicts, a significant interaction effect of ad type and scene type on attitude toward the ad emerged, $F(1, 154) = 4.34$, $p = .039$, $\eta^2_p = .03$. Simple effects show that in the scene low in narrativity, the attitudes toward the ad high in narrativity ($M = 3.74$, $SD = 1.21$) and the ad low in narrativity ($M = 3.90$, $SD = 0.90$) are relatively high and on the same level ($p = .511$). However, in the context scene high in narrativity, the ad high in narrativity results in significantly less favorable attitudes ($M = 2.98$, $SD = 1.13$) than the ad low in narrativity ($M = 3.83$, $SD = 0.86$), $p < .001$. Thus, our interaction hypothesis (H4a) is partially supported for the scene high in narrativity, but not for the scene low in narrativity. Additionally, H1a is supported for the ad low in narrativity. There is also a significant main effect of ad type and scene type; however, both effects may not be interpreted separately given the characteristics of the interaction effect.

Another ANOVA was conducted to test for the effects of scene type and ad type on attitudes toward HIV prevention behavior. In contrast to our assumption, no significant effects of ad type or scene type are detected. Thus, H1b and H4b are not supported.

We assumed that intrusiveness (H2a and H2b) and narrative engagement with the context (H3a and H3b) mediate the relationship between scene type and attitudes toward the ad as well as attitudes toward the HIV prevention behavior. Additionally, we expected that narrative ad engagement mediates the relationship between ad type and attitudes toward the ad (H5a) as well as attitudes toward the HIV prevention behavior (H5b), but only in the scene low in narrativity. We first tested for correlation relationships between the mediating variables. Narrative engagement with the ad negatively correlates with intrusiveness ($r = -.21, p = .008$). This is in line with our assumption that intrusiveness lowers narrative ad engagement. Additionally, narrative context engagement and intrusiveness are positively correlated ($r = .28, p < .001$).

Given the interaction relationship between both independent variables, we conducted a mediation analysis for multicategorical independent variables (10,000 bootstrap samples, model 4) using PROCESS for SPSS (Hayes, 2013). Scene type and ad type were transformed into one variable with four categories: (1) HIV ad low in narrativity plus scene low in narrativity, (2) HIV ad high in narrativity plus scene low in narrativity, (3) HIV ad low in narrativity plus scene high in narrativity, (4) HIV ad high in narrativity plus scene high in narrativity. For the mediation analysis, the independent variable was effect-coded so that effects for each category are computed in contrast to the grand mean of all groups (see Table 1). Due to the correlations between mediating variables, perceived intrusiveness, narrative engagement with the HIV prevention ad, and narrative engagement with the film were entered as parallel mediators and attitudes toward the HIV prevention ad as the dependent variable.

Table 1. Means and Standard Deviations of Dependent Variables in Experimental Conditions and Grand Mean.

Dependent variables	Scene low in narrativity		Scene high in narrativity		Grand mean
	Ad low in narrativity <i>M (SD)</i>	Ad high in narrativity <i>M (SD)</i>	Ad low in narrativity <i>M (SD)</i>	Ad high in narrativity <i>M (SD)</i>	
Narrative ad engagement	4.10 (0.69)	4.23 (0.97)	3.75 (0.97)	3.83 (0.96)	3.97 (0.93)
Narrative context engagement	4.09 (0.79)	4.46 (0.98)	4.64 (0.82)	4.70 (0.94)	4.48 (0.91)
Intrusiveness	4.46 (0.98)	4.30 (1.37)	5.26 (0.93)	5.38 (1.00)	4.86 (1.18)
Attitude toward the ad	3.90 (0.90)	3.74 (1.21)	3.83 (0.86)	2.98 (1.13)	3.63 (1.09)
Attitude toward HIV prevention	3.50 (1.09)	3.69 (1.25)	3.59 (1.42)	3.92 (1.35)	3.67 (1.29)

Two direct effects of the experimental conditions on attitudes toward the HIV prevention ad are visible. Similar to the results of the ANOVA, the ad high in narrativity negatively affects attitudes toward the ad when it is placed in a scene high in narrativity (see Figure 1). In contrast, the ad low in narrativity positively affects attitudes toward the ad when it is placed in a scene high in narrativity. In line with our

assumption (H2a), a significant negative indirect effect through intrusiveness on attitudes toward the ad is visible for the ad high in narrativity that is placed in a scene high in narrativity, $B = -0.20$, $SE = 0.07$, 95% CI $[-0.37, -0.09]$, as well as for the ad low in narrativity that is placed in a scene high in narrativity, $B = -0.16$, $SE = 0.06$, 95% CI $[-0.31, -0.06]$. In a scene high in narrativity, both ads increase intrusiveness, and, in turn, intrusiveness decreases the attitude toward the HIV prevention ad (Figure 1). In contrast, in a scene low in narrativity, intrusiveness is significantly decreased for both ads. This results in a positive indirect effect of ad placements in a scene low in narrativity on attitudes toward the ad, both for the HIV prevention ad low in narrativity, $B = 0.15$, $SE = 0.07$, 95% CI $[0.04, 0.30]$, and for the HIV prevention ad high in narrativity, $B = 0.21$, $SE = 0.07$, 95% CI $[0.09, 0.38]$. We did not find an indirect effect for narrative context engagement; thus, H3a is not supported.

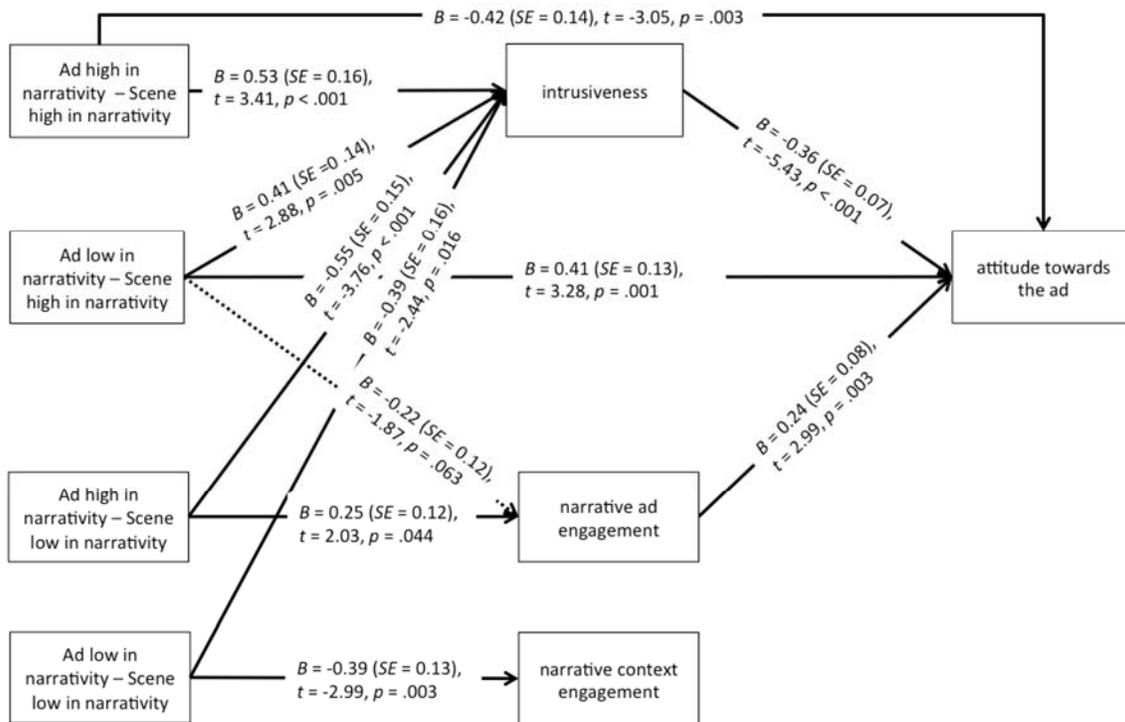


Figure 1. Direct effects of scene type and ad type, intrusiveness, narrative ad engagement, and narrative context engagement on attitudes toward the ad. Model summary for regression on narrative ad engagement: $R^2 = .05$, $F(3, 154) = 2.49$, $p = .062$. Model summary for regression on narrative context engagement: $R^2 = .06$, $F(3, 154) = 3.48$, $p = .017$. Model summary for regression on intrusiveness: $R^2 = .16$, $F(3, 154) = 10.08$, $p < .001$. Model summary for regression on attitude toward the ad: $R^2 = .31$, $F(6, 151) = 11.30$, $p < .001$.

As expected (H5a), narrative ad engagement mediates the relationship between the HIV prevention ad high in narrativity and attitudes toward the ad when placed in the scene low in narrativity, $B = 0.06$, $SE = 0.04$, 95% CI [0.001, 0.17]. The ad high in narrativity increases narrative engagement with the ad in a scene low in narrativity. In turn, narrative engagement with the ad positively affects attitudes toward the HIV prevention ad. In line with our assumption, the ad high in narrativity does not increase narrative ad engagement when it is placed in a scene high in narrativity. However, in the scene high in narrativity, the ad low in narrativity slightly reduces narrative ad engagement, which results in a negative indirect effect, $B = -0.05$, $SE = 0.04$, 95% CI [-0.16, -0.003].

A second similar mediation model was computed to test whether intrusiveness (H2b), narrative context engagement (H3b), and narrative ad engagement (H5b) mediate the relationship of the experimental conditions on attitudes toward HIV prevention behavior (Figure 2). The experimental conditions were entered as multicategorical independent variables (effect-coded).

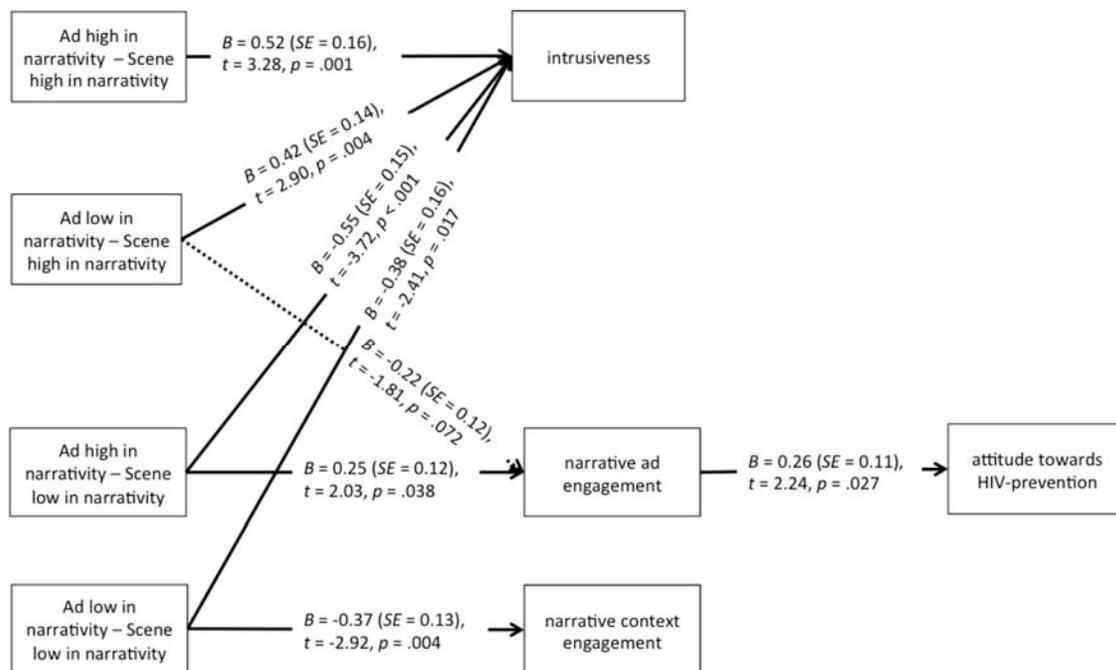


Figure 2. Direct effects of scene type and ad type, intrusiveness, narrative ad engagement, and narrative context engagement on attitudes toward HIV prevention. Model summary for regression on narrative ad engagement: $R^2 = .05$, $F(3, 154) = 2.60$, $p = .054$. Model summary for regression on narrative context engagement: $R^2 = .06$, $F(3, 154) = 3.24$, $p = .023$. Model summary for regression on intrusiveness: $R^2 = .16$, $F(3, 154) = 9.78$, $p < .001$. Model summary for regression on attitude toward HIV prevention: $R^2 = .31$, $F(6, 151) = 1.55$, $p = .166$.

Again, placing an HIV prevention ad that is high in narrativity in a scene that is low in narrativity increases narrative engagement with the ad; narrative ad engagement, in turn, increases positive attitudes toward HIV prevention behavior (H5b). Thus, we find a positive indirect effect through narrative engagement with the ad in the scene low in narrativity, $B = 0.07$, $SE = 0.05$, 95% CI [0.003, 0.20]. In contrast to the negative effect of intrusiveness on attitudes toward the ad, intrusiveness does not influence attitudes toward HIV prevention behavior. Thus, no mediation relationships are visible; H2b is not supported. Since narrative context engagement does not influence attitudes toward HIV prevention, H3b is also not supported.

Discussion

HIV prevention ads are an important means to communicate the relevance of condom use to a broad segment of the population (LaCroix, Snyder, Huedo-Medina, & Johnson, 2014; Marcus, 2007; Pott, 2007; Storey et al., 2014). However, as the results of our study demonstrate, an ad's persuasive effects depend on the message in the ad and on the context in which the ad is placed. When the ad disrupts a scene with low narrativity, viewers' attitudes toward both high-narrativity and low-narrativity ads do not differ. However, in a scene with high narrativity, an ad high in narrativity results in more negative attitudes toward the ad than an ad low in narrativity. While an ad that is low in narrativity is not affected by the context placement, a context scene that is high in narrativity is a detrimental context for a high-narrativity HIV prevention ad. This connects research on context effects of advertisements with research on persuasion effects of narrative health messages. In a narrative scene with a high level of narrativity, viewers are fully focused on the context narrative and less likely to become engaged with a new, complex HIV prevention story that disturbs their viewing experience.

To gain deeper insight into the process of disruption, we analyzed the mediating effects of perceived intrusiveness, narrative ad engagement, and narrative context engagement. In line with our expectations, placing an ad in a high-narrativity scene increased perceived intrusiveness, which in turn lowered attitudes toward the ad, but not attitudes toward HIV prevention. The ad may receive lower evaluations due to the disruption, but the core message about prevention behavior is still processed and appropriated by the viewers. Narrative engagement with the ad, however, mediated the effects of ad placement on both dependent variables: Placing the ad that is high in narrativity in the scene that is low in narrativity increased engagement with the ad. Consequently, attitudes toward the ad and toward HIV prevention were positively influenced. This is in line with prior research on the positive effects of being transported in consumer advertisements (Escalas, 2007; Escalas et al., 2004), which also finds that, despite the short duration of most advertisements, people become engaged with these narratives. The positive effect of narrative engagement on health-related attitudes is consistent with research focusing on the effects of narrative health messages (Bollinger & Kreuter, 2012; Dunlop, Wakefield, & Kashima, 2010; McQueen, Kreuter, Kalesan, & Alcaraz, 2011; Winterbottom, Bekker, Conner, & Mooney, 2008). However, when a narrative ad is placed in a context scene high in narrativity, narrative engagement with the ad is hindered. This indicates that a good and rich ad story cannot fully engage a viewer when it is placed in a context scene that is also high in narrativity. This extends existing research on context effects for advertising disruptions. Although former studies also indicate a negative effect of specific context disruptions (Wang & Calder, 2009), a relationship with the engaging quality of the ad was not investigated.

From a practical point of view, the interaction effect challenges television program planning and ad placement strategy. Advertisements in films or television series are often placed in engaging scenes to motivate viewers to stay with the program (Duncan, 2014). Inserting a "mini-climax" (Duncan, 2014, p. 285) for commercial breaks is recommended for creators of television programs. Therefore, episodes of television series are often created in smaller units "with a climax at the end of each segment" (Allrath, Gymnich, & Surkamp, 2005, p. 12). Of course, this raises the question of which negative effect outweighs the other: the risk of losing viewers who skip the ad or the risk of negative effects for advertisements.

Regarding the narrativity of the ads, we did not find an overall positive effect on attitudes for ads high in narrativity. Both ads were equally effective when they were placed in a context scene low in narrativity. Even if the story of the ad high in narrativity was much richer and enabled deeper narrative ad engagement than the minimal story of the ad low in narrativity, attitudes toward the ad were of the same magnitude. This challenges the simple notion that ads with a high degree of narrativity always facilitate prevention efforts. It is particularly relevant for developers of HIV prevention messages, because investments in the creation of rich and engaging stories run the risk of being ineffective when they are placed in the wrong context. Because content analyses regarding the narrativity of HIV prevention ads are missing, we are not able to assess the typical level of narrativity. However, storytelling is a common technique used in various types of advertisements (Ching, Tong, Chen, & Chen, 2013). Also, a meta-analysis of studies evaluating HIV campaigns concludes that about one-third of the campaigns used a narrative format—for example, drama ads (Noar et al., 2009). Even if a concrete definition of the narrative format coded is missing, this provides a first impression of the general usage of narrative strategies in HIV campaigns. To better understand persuasion effects of narrative prevention ads, future research should reflect on the engaging quality of the narratives used.

The experimental study has some limitations. Watching a film in class differs from a habitual television viewing situation at home. The presence of other students and the teacher may have shaped students' awareness of the program. Additionally, in a familiar viewing situation, viewers are accustomed to commercial interruptions. Even if the students were informed that they were watching the beginning of a film recorded from television, they may not have expected commercial interruptions. Due to the experimental procedure, the participants were not fully randomized to the stimulus groups. However, all four stimulus versions were presented in one class at the university and in one class in the professional school. Additionally, the stimulus versions were randomly assigned to the four classes at the university and the four classes at the professional school. External confounding variables were controlled: The experimental procedure was kept constant in all classes, the full experiment was carried out during two weeks, and all classes took place between 10 a.m. and 2 p.m.

Regarding the ad placements, commercial breaks typically exist of ad blocks. To avoid confounding of different ads and to realize a systematic measure of narrative engagement with the ad and the context, we used a single ad. Therefore, further research should address in more detail how people engage with different short narratives that are presented in a block or at the same time. This may be particularly relevant for online or second-screen usages that often require audiences to become engaged with several messages simultaneously.

In terms of the dependent variables, the study was limited to attitudes toward the message and attitudes toward HIV prevention behavior. We were not able to measure HIV prevention intention, because it was not approved by the local education authority. Nonetheless, HIV prevention intentions or prevention behavior are the most direct measure of success. For future research, it is relevant to move beyond self-reported attitudes and either measure prevention behavior directly or use implicit measures of prevention attitudes to get a more straightforward picture not altered by social desirability. Overall, the means for attitudes toward the ad as well as attitudes toward HIV prevention behavior are close to the middle point of the scales, which may be explained by the experimental situation. The experiment was a forced-exposure situation, and in all conditions the context film was disrupted by an ad. To investigate effects on narrative ad engagement and narrative context engagement, we needed to use the measurement twice in the same questionnaire. To avoid confusion among the participants, we specified the instructions so that they clearly focused on the context or the ad. We did not randomize the order of the questions in the questionnaire to keep the order in line with the viewing situation. This could, in general, cause order effects. The participants may have been concentrating less when answering the second scale, since they were already familiar with the items. Additionally, since all participants answered the scale for narrative context engagement first and the scale for narrative ad engagement second, the first response for narrative context engagement may have worked as a baseline for the response of narrative ad engagement (Perreault, 1976). However, there are some indicators that the scales were valid measures. Both scales formed reliable indices, which suggests that the answers for the second scale were not given randomly. All effects of the narrative engagement variables were in line with our expectations. Also, the two measures were differently affected by the independent variables and differently affected dependent variables. This indicates that the participants did not confuse the measures and both scales present a valid measure for the constructs.

Overall, our findings suggest that the message development needs consideration—but equally, the placement of the message within a narrative context needs careful attention. From a health communication developer's point of view, this may result in a situation where people whose interest in an HIV prevention message is evoked in a single presentation and who show favorable attitudes may respond in a very different way when the ad is perceived as intrusive. Placing health-related messages in good stories may not always have advantages, and may cause boomerang effects. Thus, studying the contextual influence of narrative ads may put studies into perspective that emphasize the relative advantage of narrative ads in health-related contexts, but do not consider contextual viewing experiences.

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