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Internet advertising video facilitating health communication: Narrative and emotional perspectives

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Abstract

Purpose – Based on narrative theory, emotional contagion theory, and anticipated emotions theory, the purpose of this paper is to adopt an experimental design intended to understand how narrative advertising video on internet, narrator flow and online audience characteristics influence the health communication effects and depression prevention messages of public service advertisements.

Design/methodology/approach – This study uses two experimental designs. The first contrasts the effectiveness of persuasion between narrative and argument advertising videos on internet, while the second contrasts the effectiveness of persuasion between narrators with high and low flow. This study employed partial least squares path modeling to validate the research structure hypothesis.

Findings – Empirical results indicate that internet narrative advertising video is not direct, but rather draws on flow and positive anticipated emotions to stimulate the production of online audience intention to adopt health risk-reducing behaviors. Compared with narrative advertising video, which influences intention to adopt health risk-reducing behaviors through flow and positive anticipated emotions, narrator advertising video with an emotionally invested high-flow narrator can strengthen online audience intention to adopt risk-reducing behaviors more directly and positively.

Practical implications – The study results can provide elements to assist in the design of online advertising video on depression prevention and health promotion.

Originality/value – In this study, the dialogue among narrative theory, emotional contagion theory, and anticipated emotions theory is constructed, and an integrated conceptual framework is developed for the relationship between internet advertising video type and the health communication.

Keywords Online advertising, Depression, Health communication, Adolescents, Anticipated emotions, Narrative theory

Paper type Research paper

1. Introduction

In the present era of rapid technological change, although people have become highly materialistic, ironically various studies have emphasized that rising levels of psychological stress, emptiness, and depression are driving up rates of depression (Chang, 2008; Lonnqvist, 2000), and undermining family structures. In particular, depression is a serious public health issue because of its highly relationship with suicide. The ultimate goal of this study is to convey positive health concepts through internet advertising videos, to use these positive concepts effectively prevent and reduce

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depression rates, and to build a positive and optimistic perspective through the online communication of healthy lifestyle messages that ultimately will lower suicide rates.

The finding that depression affects adolescents to the same degree as adults is surprising, and the seriousness of depression among college students is a particular concern (Chang, 2008; Ko *et al.*, 2006; Wasserman *et al.*, 2005). However, adolescents are unlikely to seek assistance, or even to know where to do so (Chang, 2008). Suicide thus remains a major cause of death among young people (Ko *et al.*, 2006; Wasserman *et al.*, 2005), and is the most common cause of death in many countries, including Taiwan (Chiou, 2010). Wasserman *et al.* (2005) used World Health Organization international mortality data to examine youth suicide rates from 90 countries. The data revealed that in 90 countries, youth deaths totaled 132,423, comprising 12,064 suicides, which translates to 9.1 percent of all deaths, and is the third leading cause of death.

Based on the above, emphasizing advocacy and dissemination of depression prevention is clearly both difficult and important (Chang, 2008). Most modern youth are addicted to the internet (Calisir, 2003), so dissemination through internet videos would be most effective (Huang *et al.*, 2009). The process of creating an internet advertising video that is attractive to youth and that they can absorb and use to proactively disseminate information on suicide offers an important means to advocate depression prevention ideology. Conversely, if the internet video is insufficiently attractive, the information will not be disseminated and the advertisement will lose its significance. Studies have demonstrated that advertisements that feature narrative advertising are more likely to attract the attention of audiences and be effective (Ching *et al.*, 2013; Escalas, 1998; Escalas *et al.*, 2004; Lien and Chen, 2013). Particularly, previous studies demonstrated that such advertisements are the most effective for depression prevention, and also resonate with audiences (Chang, 2008; Hsu, 1999). Therefore, this study hopes to draw attention to depression symptoms and concerns through internet advertising videos, enabling individuals to proactively seek assistance or to take positive and practical actions to assist those in need.

When audience see an internet advertising video, the past narrative script on depression prevention advocacy found that if the description of the event (Chang, 2008; Hsu, 1999) anticipates the future and makes associated predictions, the audience will shape their own emotional responses accordingly. Bagozzi *et al.* (1998) argued that anticipation and emotions associated with expectations and predictions are anticipated emotions, and can be positive or negative. However, past studies focussed mainly on how to persuade audiences through narrative advertising (Chang, 2013, 2009; Ching *et al.*, 2013; Lien and Chen, 2013), but never measured the anticipated emotions produced by online audiences from internet narrative advertisements, and thus did not clarify the relationship between the two. One purpose of this study is to manipulate internet advertisement narrative level, to gauge the existence of anticipated emotions among online audiences, and to explore the dynamics of anticipated emotions as the narrative structure varies.

In an internet advertising video, both positive and negative emotions of protagonist are conveyed to online audiences. When protagonist engages in events with fully emotions, they simultaneously enjoy the experience of integrating them into the scenario (Privette and Bundrick, 1987), and flow appears based on this experience (Csikszentmihalyi 1975, 1997). The emotional flow of the protagonist while performing is expected to allow the audience to immerse themselves into the advertisement via emotional contagion (Choi *et al.*, 2014), and further to lead to the key element that links audience emotions with the advertisement contents (Hatfield *et al.*, 1993; Megehee and Woodside, 2010). The second study objective is to explore whether the flow of the narrator in an internet advertising video itself can influence online audience emotional commitment, flow and immersion, and

further enable them to not only resonate with the content of the advertisement, but to proactively put the dissemination into action, for example when a depression patient actively seeks help. Based on the above two research purposes, the third goal of this study is to determine whether internet narrative advertisement and narrators with high flow will increase audience anticipated emotions and audience flow experience to encourage them to take risk reduction actions when facing high-risk situations.

Narrative advertisements have been discussed in traditional media for a long time, such as magazine and television (e.g. Gulas *et al.*, 2010; Koernig and Granitz, 2006), and recently online narrative advertising has been noticed (e.g. Brajnika and Gabriellia, 2010; Ching *et al.*, 2013; Mooradian *et al.*, 2008). However, most research relating to online narrative advertising focusses on product/service advertisements in marketplace, so discussing online advertising videos for health communication purpose is critical to further clarify. Overall, people prefer getting health-related information from websites over asking medical specialists in person (Yu *et al.*, 2008). With the prevalence influence of online advertising videos for young people, greater attention should be directed toward the design of online advertising videos to maximize their contribution to health promotion and public welfare. This study initiates a dialogue and clarifies the relationships between narrative theory and emotional contagion theory, and so marks a break from past research on narrative advertising for health promotion.

2. Theoretical background and hypothesis development

2.1 Types of internet advertising video

Narrative and argument advertising are two types of advertising video (Ching *et al.*, 2013), and the difference of them can be explained by the concept of narrative theory. The narrative theory states that the narrative structure includes both chronology and causality (Polkinghorne, 1991), and usually involves one or two segments as a narrative description of events, with the protagonist pursuing a goal (Escalas, 1998). Restated, the chronology involves the chronological sequence of events that comprise the contents of the narrative advertisement; and the causality refers to the casual relationship between events. Argument advertisement can employs lectures to persuade audiences to fulfill the advertisement goals (Chang, 2008) and primarily adopts rational argument to support its content (Deighton *et al.*, 1989; Lien and Chen, 2013). Therefore, argument advertising lacks the two elements of character and plot (Deighton *et al.*, 1989).

Compared to argument advertising, chronology and causality of narrative advertising performs better at stimulating audiences to identify with the advertisement, and thus persuades them to support advertising claims (Chang, 2008; Escalas *et al.*, 2004; Phillips and McQuarrie, 2010). Previous studies about health communication also indicate that narrative communication is an emerging form of persuasive communication used in health education to solicit actual patient stories (Houston *et al.*, 2011; Petraglia, 2007). Recent trends in health promotion incorporate narrative theory and suggest that narrative may provide a central, grounded medium for expressing and shaping health behavior (Larkey and Hecht, 2010; Gray and Harrington, 2011). In particular, narrative advertisements are more likely to enable audiences to imagine events in their minds, putting them on the path of mental stimulation (Chang, 2008, 2013; Ching *et al.*, 2013). Consequently, audiences can focus fully on narrative advertisement content (Escalas *et al.*, 2004), making it easier for them to generate empathy (Chang, 2008).

In addition to a narrative description of events, the protagonist is also important in advertisements. In an advertisement, both positive and negative emotions of protagonist are conveyed to audiences (Small and Verrochi, 2009), a phenomenon known as

emotional contagion (Hatfield *et al.*, 1994; Bakker, 2005; Hennig-Thurau *et al.*, 2006; Small and Verrochi, 2009). For example, when a protagonist shares a successful event and displays expressions of joy, their audiences exhibit the same expressions. Previous studies about health communication also pay attention to the impact of emotional messages in advertisements (Biener *et al.*, 2004; Kim and Niederdeppe, 2014). Emotional contagion theory (Hatfield *et al.*, 1994) points out that emotional contagion occurs whether an individual likes another individual and whether they desire that other individual or not, they will be subjected to the emotional effects of others (Bakker and Schaufeli, 2000; Bakker *et al.*, 2001; Bakker, 2005; Hennig-Thurau *et al.*, 2006; Small and Verrochi, 2009; Westman, 2001). When protagonist engage fully in events, including fully emotions, they achieve optimal experiences, and simultaneously enjoy the experience of integrating them into the scenario (Privette and Bundrick, 1987), and Csikszentmihalyi (1975, 1997) labels this experience high flow. Thus, high or low flow-of-narrator advertising is another type of advertising video.

Flow-of-narrator advertising is related to emotions of protagonist. Specifically, the high flow of the protagonist while performing is expected to allow the audience to immerse themselves into the advertisement via emotional contagion, and further to lead to the key element that links audience emotions with the advertisement contents (Hatfield *et al.*, 1993; Small and Verrochi, 2009). However, a protagonist with low flow cannot use emotional contagion to affect audiences, which considerably reduce the persuasive effect. In brief, the flow of the protagonist in the show determines the impact of the effect on audiences. In this study, a protagonist was similar as our narrators in the advertising video. Therefore, this study indicated that advertising with high-flow narrators and low-flow narrators is another type of advertisement video worthy of further discussion.

In sum, this study concluded two types of internet advertisement video; one is narrative/argument advertising video from the content of advertisement based on the narrative theory perspective, and the other one is high/low flow narrator advertising video from the protagonist of advertisement based on the emotional contagion theory perspective.

2.2 Audience anticipated emotions

It is expected that the content and protagonist of advertisement may arouse audiences' emotion and behavior intention. Regarding emotion, people shape emotional responses based on future expectations and their assessments of future goal success or failure (Bagozzi *et al.*, 1998, 2003; Louro *et al.*, 2005; Bagozzi and Dholakia, 2006). Because such emotions have prospective characteristics, emotional response to such situations is called anticipated emotion (Bagozzi, 2000; Leone *et al.*, 2005; Tsai and Bagozzi, 2014). Restated, anticipated emotions can be positive or negative; for example if people imagine the results of future operations to be successful, then the joy and satisfaction associated with success will increase, which falls under positive anticipated emotions; meanwhile, when people expect an operation to fail, the resulting frustration, worry, fear, and nervousness all comprise negative anticipated emotions (Bagozzi *et al.*, 1998, 2003; Bagozzi and Dholakia, 2006).

Previous studies have pointed out that anticipated regret and negative anticipated emotions have different foci (Abraham and Sheeran, 2004; Taylor, 2007). The former focusses on the possibility of making a wrong decision, while the latter stresses predictions about the failure of an operation. Andreade (2005) thus suggests integrating anticipated regret with other anticipated emotions, to explore individual decision making regarding risk. In sum, this study uses the three types of anticipated emotions – positive anticipated emotions, negative anticipated emotions, and anticipated regret – to measure

online audience anticipated emotions, and simultaneously to analyze the role each type plays during decision making regarding risk.

2.3 The relationship among narrative/argument advertising video on internet, anticipated emotions of online audience, and audience intention to adopt health risk-reducing behaviors

During decision making, people require clear anticipated objectives and effects to produce imagination regarding future goal success or failure (Bagozzi *et al.*, 1998, 2003; Bagozzi and Dholakia, 2006). Causality in narrative advertising provides people with a clear direction (Chang, 2008; Escalas *et al.*, 2004). In this context, the audience can more clearly forecast future expected results, and thus narrative advertising can stimulate strong anticipated emotional responses. Conversely, argument advertising not only lacks plotline and causality (Chang, 2008), but also simply presents stale facts to the audience, and thus fails to stimulate audience imagination, and reduces anticipated emotions. Compared to argument advertising, narrative advertising has plotline and dramatic tension (Chang, 2008, 2009; Escalas *et al.*, 2004), stimulating audience imagination through the structure and climax of the story (Chang, 2008, 2013; Escalas *et al.*, 2004), and generating more anticipated emotional response (including positive, negative anticipated emotion, and anticipated regret). This study thus hypothesizes:

H1a. Narrative advertising video generates more positive anticipated emotions than argument advertising video on internet.

H1b. Narrative advertising video generates more anticipated regrets than argument advertising video on internet.

H1c. Narrative advertising video generates more negative anticipated emotions than argument advertising video on internet.

Previous studies have pointed out that when people receive a message on disease prevention (i.e. depression prevention), worry and fear of the disease striking those around them may increase their desire to adopt preventive measures to preemptively reduce risk (Menegatti, 2014) and spread the message to eliminate regret (Ordonez *et al.*, 1999). Anticipated emotions and risk reduction behavior thus are inextricably linked (Abraham and Sheeran, 2004; Kocher *et al.*, 2014; Mahler, 2014; Nelissen *et al.*, 2011; Sheeran *et al.*, 2014). For example, Sheeran *et al.* (2014) conducted a meta-analysis of experimental studies to examine whether risk appraisals is a key determinant of decisions and actions, and found that heightening risk perceptions had larger effects on outcomes when anticipatory emotions was also increased. Research about health promotion also found the influence of anticipated emotions on preventive health behavior, such as weight-loss intentions (Nelissen *et al.*, 2011) and UV protection intentions and behaviors (Mahler, 2014). Abraham and Sheeran (2004) also found that anticipated regret is not only associated with risk reduction, but anticipated regret simultaneously leads people to engage in positive action to reduce risk, such as actively engaging in healthy behaviors. That is, a depressed audience will proactively seek assistance as their anticipated emotions rise. Audiences that do not suffer depression are also more likely to take positive action to help others and reduce risk if the anticipated emotions are high.

Behavioral intention to reduce depression risk can include willingness to seek help, intention to spread online video messages, and intention to help others, all of which are produced by anticipated emotions (Abraham and Sheeran, 2004; Bagozzi *et al.*, 2003).

Anticipated emotions can be triggered by a narrative advertising video shaped by causality, plot, and dramatic tension based on narrative theory (Chang, 2008; Escalas *et al.*, 2004). Narrative advertising video on internet thus can shape anticipated emotions to strengthen online audience intention to adopt risk reduction behaviors. This study thus hypothesizes:

H2a. Advertising video type (narrative/argument) on internet, through arousing positive anticipated emotions, influences audience intention to adopt health risk-reducing behaviors.

H2b. Advertising video type (narrative/argument) on internet, through arousing anticipated regret, influences audience intention to adopt health risk-reducing behaviors.

H2c. Advertisement type (narrative/argument advertising) on internet, through arousing negative anticipated emotions, influences audience intention to adopt health risk-reducing behaviors.

2.4 The relationship among high/low flow narrator advertising video on internet, anticipated emotions of online audience, and audience intention to adopt health risk-reducing behaviors

Audience emotions fluctuate with narrator expression and emotion (Small and Verrochi, 2009). For example, when the narrator shares a frustrating experience, the emotions of the audience will follow, and their facial expressions will synchronize with those of the narrator. Previous studies have also pointed out that not only the expressions and emotions of the narrator will affect the audience (Peters and Kashima, 2007; Small and Verrochi, 2009), but audience imagination and anticipation of the event will be triggered simultaneously with their picturing of the emotional experience of the narrator (Hatfield *et al.*, 1993; Doherty, 1997; Chang, 2013). Based on emotional contagion theory (Hatfield *et al.*, 1994; Bakker, 2005; Small and Verrochi, 2009), a narrator with high flow in a depression advertisement will not only influence audience expression by emotional contagion, but simultaneously will trigger audience anticipation and imagination, finally enhancing the production of anticipated emotions. Conversely, if a narrator with low flow in a depression advertisement has less obvious emotions and expressions, audience anticipation and imagination of emotional experience is less likely to be triggered, hindering the production of various anticipated emotions. This study thus hypothesizes:

H3a. High-flow narrator advertising video generates more positive anticipated emotions than low-flow narrator advertising video on internet.

H3b. High-flow narrator advertising video generates more anticipated regret than low-flow narrator advertising video on internet.

H3c. High-flow narrator advertising video generates more negative anticipated emotions than low-flow narrator advertising video on internet.

Previous studies adequately highlighted that the stimulation of positive anticipated emotions, negative anticipated emotions, and anticipated regret is the key to strengthen intention to adopt health risk-reducing behaviors (Abraham and Sheeran, 2004; Bagozzi *et al.*, 2003; Mahler, 2014; Nelissen *et al.*, 2011), including willingness to seek help, intention to spread online video messages, and intention to help others. However, based on emotional contagion theory, compared to narrators with low flow, narrators with high flow can utilize other mechanisms, such as empathy and imagination, to more easily

trigger audience's anticipation and imagination to the emotional experiences of narrators (Hatfield *et al.*, 1993, 1994; Bakker, 2005; Small and Verrochi, 2009), ultimately shaping higher anticipated emotions. Based on the above, audience intention to adopt health risk-reducing behaviors is gradually strengthened by the increase in anticipated emotions. Especially as described by the narrator with high flow, the relationship between anticipated emotions and intention to adopt health risk-reducing behaviors is stronger than that of a narrator with a lower degree of flow, and therefore this study hypothesizes:

H4a. Advertising video type (high/low flow narrator) on internet, through arousing positive anticipated emotions, influences audience intention to adopt health risk-reducing behaviors.

H4b. Advertising video type (high/low flow narrator) on internet, through arousing anticipated regret, influences audience intention to adopt health risk-reducing behaviors.

H4c. Advertising video type (high/low flow narrator) on internet, through arousing negative anticipated emotions, influences audience intention to adopt health risk-reducing behaviors.

2.5 Online audience flow in the relationship between narrative/argument advertising video on internet and audience intention to adopt health risk-reducing behaviors

Flow theory (Csikszentmihalyi, 1975, 1997) pointed out that the mental state of flow experience occurs when the audience engages deeply in reading or other activities, to the level of absorption; thus flow experience produces concentration and focussed attention, clear goals and sense of feedback, and total immersion, which later shape the behavioral intention to continue to participate (Chang *et al.*, 2014; Huang and Hsieh, 2011). Accordingly, causing audiences to have emotional and flow experiences in response to the advertisement has become the key influence on audience support of advertisement content and the creation of subsequent behavioral intentions (Chang, 2008).

Based on narrative theory, compared to argument advertising video, narrative advertising video has the following advantages: helps audiences easily immerse themselves into the plot; helps audience simulate and picture the content and event of the advertisement; helps audiences concentrate on viewing advertising content; helps audiences generate empathy; fosters audience identification (Escalas *et al.*, 2004; Chang, 2008, 2009, 2013). For people to reach the flow experience, they require absolute concentration and immersion (Bakker, 2005; Chang, 2008; Chang *et al.*, 2014; Huang and Hsieh, 2011). Therefore compared with argument advertising video, narrative advertising video is more likely to increase audience flow experience:

H5. Narrative advertising video generates more online audience flow than argument advertising video on internet.

According to research on flow experience, concentration and focus increase with flow (Bakker, 2005; Chang, 2008; Chang *et al.*, 2014; Huang and Hsieh, 2011), thus producing empathy with the narrator. Therefore when watching online advertising messages on how to avoid depression, online audiences with high flow are more likely to identify with the messages conveyed, and thus to form intention to adopt health risk-reducing behaviors (Chang, 2008). On the other hand, Csikszentmihalyi (1975, 1997) mentioned that when people enter the flow experience, they have clear objectives and feedback. Restated, audiences with a high flow can grasp the advertising message and intent of the depression prevention advertisement, then adopt appropriate health risk-reduction behavior.

According to narrative theory (Escalas *et al.*, 2004; Chang, 2008), compared to argument advertising video, narrative advertising video on internet not only uses mechanisms such as simulation and imagination to enable online audiences to shape empathy and experience similar emotions to the narrator, but simultaneously can also increase online audience flow in the narrative content. Accordingly, narrative advertising video on internet outperforms argument advertising video at stimulating higher online audience flow, and increasing intention to adopt healthy risk-reducing behaviors. Thus, the study hypothesizes:

H6. Advertising video type (narrative/argument) on internet, through arousing online audience flow, influences audience intention to adopt health risk-reducing behaviors.

2.6 Online audience flow in the relationship between high/low flow narrator advertising and audience intention to adopt health risk-reducing behaviors

Emotional contagion is not limited to lectures and speech, since emotions exert mutual affects and influences. Emotional contagion also occurs in the workplace (Hennig-Thurau *et al.*, 2006) between school teachers and students (Bakker, 2005), among teachers (Bakker and Schaufeli, 2000), and general practitioners in the market (Bakker *et al.*, 2001). The classic example includes emotional interactions among family members (Westman, 2001). Based on emotional contagion (Hatfield *et al.*, 1993, 1994; Bakker, 2005), a happy-faced (sad-faced) image will elicit or enhance happy (sad) feelings (Small and Verrochi, 2009). Therefore, a narrator with higher flow is more likely to influence an audience with flow experience than one with lower flow. This study thus hypothesizes:

H7. High-flow narrator advertising video generates more online audience flow than low flow narrator advertising video on internet.

According to emotional contagion theory, narrators with high flow can utilize mechanisms such as empathy and imagination to more easily trigger audience anticipation and imagination regarding emotional experiences such as flow (Hatfield *et al.*, 1993, 1994; Bakker, 2005; Small and Verrochi, 2009). Chang (2008) found that the higher the flow of audiences for an advertisement on how to avoid and prevent depression, the more likely the audience can identify with the advertisement content and messages, leading to intention to adopt healthy risk-reducing behaviors. Meanwhile, previous studies on flow experience have indicated that when people enter the flow experience, they possess clear objectives and feedback (Bakker, 2005; Chou and Ting, 2003). Restated, audiences with high flow can grasp the intent of advertising messages on depression prevention, and this is followed by increased intention to adopt healthy risk-reducing behaviors. Therefore this study hypothesizes:

H8. Advertising video type (high vs low flow narrator) on internet, through arousing online audience flow, influences audience intention to adopt health risk-reducing behaviors.

Based on the above hypotheses and the associated reasoning, Figure 1 shows the research structure.

3. Methods

3.1 Design, measurement, participants, and procedure

Through the advertisement method design, this study investigated how different internet advertising videos and narrator flow influence audience emotions and behavioral intentions. This study verified the experimental design by manipulating the

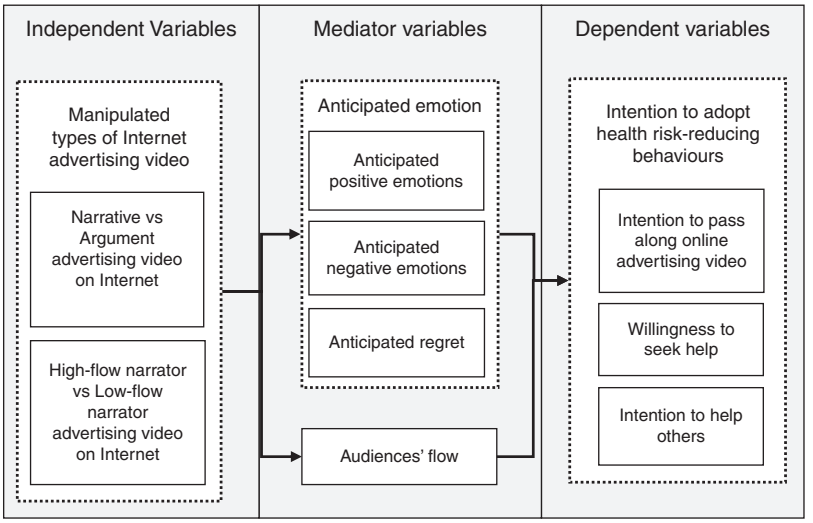

Figure 1.
Research framework

two factors, "narrative advertising vs argument advertising" and "narrator with high flow vs low flow." Regarding manipulation of narrative and argument advertising video on internet, this study took Chang (2008) and Jorm *et al.* (2000) as the main references, as shown in Table AI. Regarding the degree of narrator flow, the fluctuations of narrator emotional expressions and voice can influence audience emotions and flow experience (Bakker, 2005; Hatfield *et al.*, 1994). This study thus manipulated the painful expressions and emotional voice of the narrator to mimic a narrator with a high degree of flow. In contrast, the same narrator was manipulated to have neutral expressions and no emotional voice to represent a narrator with low flow.

After viewing the internet advertising video, participants were presented questions of anticipated emotions from Taylor (2007), including two questions of "positive anticipated emotions," three questions of "negative anticipated emotions," and three questions of "anticipated regret." In addition, two questions from Chang (2008) were used to measure "audience flow." Finally, the measurement of "intention to adopt health risk-reducing behaviors" included four questions regarding "passing along online video advertising intention" originating from Harrison-Walker (1993); three questions on the measurement of willingness to seek help, primarily from Cohen (1999) and Chang (2008); and three questions regarding the measurement of intention to help others, originating from Hsu (1999). All the above questions adopted a five-point Likert scale for measurement. The questions were adapted from previous studies (see Table AII).

This study first recruited participants on an university campus in Taiwan. Notably, in 2008, the Taiwanese youth suicide rate1 17.6 cases per 100,000 inhabitants exceeds the global average2 (11.6), while the male youth suicide rate in Taiwan (22.0) is exceeds the global average for 105 countries (15.3), and the Taiwanese female youth suicide rate (13.2) exceeds the global average (11.2). Therefore, health promotion is a critical issue in Taiwan. Participants were randomly assigned to one of the four experimental scenarios, including narrative advertising, argument advertising, advertisement with a high-flow narrator, and advertisement with a low-flow narrator. During the experiment, the researcher described the experiment procedure and precautions first, and then played the online advertising video. The online

advertising video lasted around two minutes, and survey questionnaires were administered afterwards. The researchers collected the questionnaires immediately upon completion and presented participants with a gift as a token of appreciation. In total, the samples including questionnaires dealing with narrative advertisements, argument advertising, a high-flow narrator, and a low-flow narrator were 122, 82, 122, and 105. Males and female accounted for 40 and 60 percent of the sample.

3.2 Confirmation and measurement of advertising manipulation

Regarding narrative and argument advertising manipulation, after the subject viewed the online advertising message, they were immediately asked three questions with five-point Likert scale regarding "narrative level," including "the Internet advertisement reads like a story," and "the Internet advertisement states the symptoms of the depressed person in an objective manner" (a reversed item), to ensure the success of the manipulation (some questions originated from Chang (2008)). After averaging the score of these items, narrative and argument advertising video differed significantly ($t = 9.59$, $p < 0.01$, $M_{\text{narrativead}} = 3.5$, $\text{SD} = 0.54$, $M_{\text{argumentad}} = 2.67$, $\text{SD} = 0.7$), confirming the effectiveness of the advertisement type manipulation.

Regarding the confirmation and measurement of manipulation of narrator flow, after the participant viewed the internet advertisement, they were immediately asked eight questions with five-point Likert scale related to "narrator flow," including "I think the protagonist has negative emotions," "I think the protagonist is very depressed," "I think the protagonist is completely immersed in the plot," "I think the protagonist is having a flow experience," "I think the emotions of the protagonist influence the atmosphere in the online video," "I think the emotions of the protagonist influence the audience," "I think the atmosphere of the online video completely relies on the protagonist," and "I think the interpretation of depression by the protagonist is clear and unequivocal," to ensure successful manipulation (certain questions were amended from Bakker, 2001). After averaging the score of these items, high- and low-flow narrator advertising differed significantly ($t = 4.63$, $p < 0.01$, $M_{\text{high flow ad}} = 3.5$, $\text{SD} = 0.62$, $M_{\text{low flow ad}} = 3.0$, $\text{SD} = 0.72$), confirming the effectiveness of the manipulation of advertisement type on internet.

4. Results

Based on the suggestion of Chin *et al.* (1996), this study employed partial least squares (PLS) path modeling (rather than structural equation model), which was more suitable for smaller samples, to validate the research structure hypothesis. Furthermore, Teo *et al.* (2003) postulated that if the research model is still under development, including theory development, exploratory research, and testing, the researcher should adopt PLS path modeling to validate the research mode relationship (Hair *et al.*, 2011; Ringle *et al.*, 2012). This study uses narrative theory and emotional contagion theory to structure how audience anticipated emotions and flow influence intention to adopt healthy risk-reducing behavior. The main research objective is theory development and exploratory research. Based on the above, PLS is the most appropriate technique for the purposes of this study.

This study used SmartPLS (Ringle *et al.*, 2007), to perform structural equation modeling and assess both the quality of the measurement model and the interrelationships among the structural model constructs. Regarding assessing the goodness of fit and explanatory power of the structural model, a global fit (GoF) measure for PLS path

modeling has been suggested (Hair *et al.*, 2011, 2013), GoF (GoF small = 0.1, GoF medium = 0.25, and GoF large = 0.36), and is defined as the geometric mean of the average communality and average R^2 (for endogenous constructs). In addition, this study assessed the significance of the mediation effect using the Sobel test based on Hair *et al.* (2013), and adopted Chow test (*F*-test) to assess the results of multi-group comparison between narrative advertising and high-flow narrator advertising subsamples. In general, these analyzed methods can be applied to any structural model with various constructs as well as be used to analyze the specific results of the health communication in this study.

Following, we divided results into two parts based on different structural model starting from narrative/argument advertising video or high/low flow narrator advertising video on internet. Since the study hypothesis is unidirectional, the one-tailed test was adopted ($t > 1.645$, $p < 0.05$) for hypothesis testing (Teo *et al.*, 2003).

4.1 Narrative vs argument advertising video on internet

4.1.1 Convergent validity and discriminant validity. First, the reliability and validity of each variable was verified. Table I lists information on the loadings of the research model measures. All items had significant path loadings at the 0.01 level and exceed 0.7. According to Table I, Cronbach's α values ranged from 0.70 to 0.95 for the seven constructs. The values all exceeded 70, indicating high internal consistency of the measure reliability (Nunnally, 1978). Composite reliability was stated by examining ρc for constructs, and exceeded the suggested threshold of 0.70 in all cases, indicating reliability. The study assessed convergent validity using average variance extracted (AVE), and the ratio of construct variance to total variance among indicators. Table I illustrates the values of AVE for the seven constructs, all of which exceeded

Construct name	Items	Factor loading[a]	Cronbach α	Composite reliability (ρ_c)	AVE
Positive anticipated emotions (PAE)	PAE1	0.88	0.76	0.89	0.81
	PAE2	0.92			
Negative anticipated emotions (NAE)	NAE1	0.95	0.89	0.93	0.82
	NAE2	0.88			
	NAE3	0.88			
Anticipated regret (AR)	AR1	0.90	0.92	0.95	0.86
	AR2	0.94			
	AR3	0.94			
Audiences' flow (AF)	AF1	0.93	0.70	0.86	0.76
	AF2	0.81			
Intention to help others (IHO)	IHO1	0.92	0.82	0.89	0.74
	IHO2	0.92			
	IHO3	0.73			
Willingness to seek help (WSH)	WSH1	0.93	0.91	0.94	0.84
	WSH2	0.94			
	WSH3	0.88			
Intention to pass along online video advertising (PAI)	PAI1	0.94	0.95	0.97	0.88
	PAI2	0.95			
	PAI3	0.95			
	PAI4	0.91			

Table I.
Results of measurement properties

Notes: $n = 204$. Based on the data from narrative vs argument advertising video on internet. [a]All item loadings were significant at $p < 0.01$

0.50 (Barclay *et al.*, 1995), confirming that all measures exhibited satisfactory convergent validity. Furthermore, the study examined discriminant validity using a correlation matrix. As listed in Table II, the values of the square root of AVE for the measures on the diagonal all exceeded the correlations among the measures off the diagonal (Fornell and Larcker, 1981). The discriminant validity thus was satisfactory.

4.1.2 t-Test for testing H1a-H1c, and H5. *t*-Test showed advertising video type (narrative/argument advertising) on internet significantly affected the degree to which participants experienced positive anticipated emotions, $t = 1.80$, $p < 0.05$. Participants who viewed the narrative advertisement on internet ($M = 3.68$, SD = 0.77) rated themselves higher on positive anticipated emotions than those who viewed the argument advertisement ($M = 3.48$, SD = 0.75), supporting *H1a*. Advertisement type on internet significantly affected the degree to which participants experienced anticipated regret, $t = 3.49$, $p < 0.05$. Participants who viewed the narrative advertisement on internet ($M = 3.83$, SD = 0.75) rated themselves higher on anticipated regret than those who viewed the argument advertisement on internet ($M = 3.42$, SD = 0.89), supporting *H1b*. Advertisement type on internet significantly affected the degree to which participants experienced negative anticipated emotions, $t = 1.97$, $p < 0.05$. Participants who viewed the narrative advertisement on internet ($M = 2.72$, SD = 0.86) rated themselves higher on negative anticipated emotions than those who viewed the argument advertisement on internet ($M = 2.49$, SD = 0.77), which supported *H1c*. *t*-test demonstrated a significant effect of advertisement type on the degree to which participants experienced audience flow, $t = 3.40$, $p < 0.05$. Participants who viewed the narrative advertisement on internet ($M = 3.29$, SD = 0.73) rated themselves higher on audience flow than those who viewed the argument advertisement on internet ($M = 2.92$, SD = 0.80), which supported *H5*.

4.1.3 Assessing the hierarchical construct in a structural model (testing H2a-H2c, H6). To detect the research framework shown in Figure 1, this study encoded narrative advertising as 1, and argument advertising as 0, to indicate the narrative level, then placed this value under the PLS analysis based on the analysis method of Chang (2008). For the complete model (see Figure 2), this study obtained a *GoF* value of 0.54, which exceeded the cut-off value of 0.36 for large *GoF* and demonstrated that the proposed model performs well. On the other hand, PLS analysis of the structural model (Figure 2) explained 25 percent of the variance in intention to adopt health risk-reducing behaviors, which exceeded the cut-off value of 19 percent for R^2 proposed by previous studies (Hair *et al.*, 2013; Urbach and Ahlemann, 2010), and suggested the structural model has acceptable explanatory power. In addition, intention to adopt health risk-reducing behaviors (Figure 2) is a hierarchical construct with three second-order factors – intention to pass along online advertising video (38 percent for R^2), intention to help others (72 percent for R^2), and willingness to seek help (64 percent for R^2).

In addition, this study assessed the significance of the mediation effect using the Sobel test based on Hair *et al.* (2013). According to the results of PLS estimation in Figure 2, positive anticipated emotions significantly mediate the relationship between advertising video type (narrative/argument) on internet and intention to adopt health risk-reducing behaviors (the Sobel test *z*-value = 1.98, $p < 0.05$), fully supporting *H2a*. Anticipated regret thus did not significantly mediate the relationship between advertising video type on internet and intention to adopt health risk-reducing behaviors (the Sobel test *z*-value = 1.70, $p > 0.05$). These results do not support *H2b*.

Table II.
Means, standard deviations, correlations, and the square root of the average variance extracted

Construct name	Mean	SD	PAE	NAE	AR	AF	IHO	WSH	PAI
PAE	3.60	0.77	0.90						
NAE	2.63	0.83	0.00	0.90					
AR	3.66	0.83	0.50	0.06	0.93				
AF	3.14	0.78	0.27	0.23	0.30	0.87			
IHO	3.69	0.70	0.25	0.15	0.12	0.21	0.86		
WSH	3.93	0.75	0.31	0.02	0.21	0.13	0.70	0.92	
PAI	2.71	0.95	0.30	0.17	0.37	0.48	0.25	0.12	0.94

Notes: $n = 204$. Based on the data from narrative vs argument advertising video on internet. Values in the diagonal are the square root of the average variance extracted (AVE)

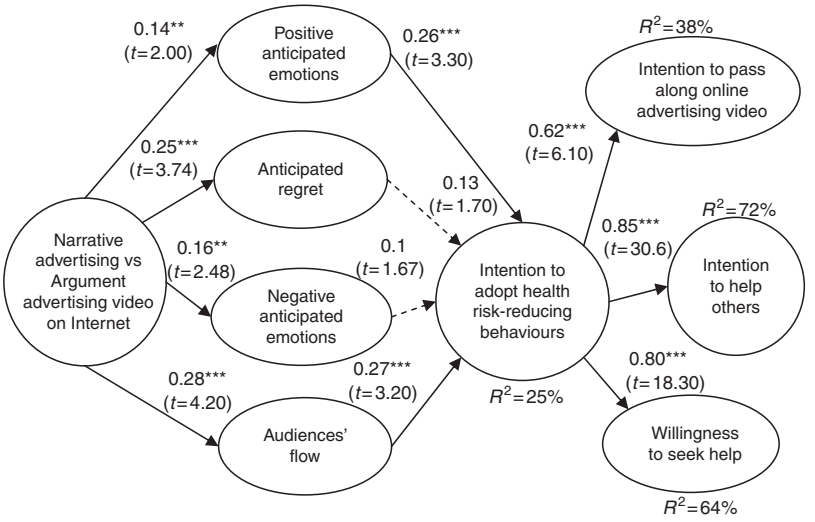

Figure 2.
Results for PLS analysis of narrative advertising model (narrative advertising vs argument advertising on internet)

Notes: Dashed lines: not significant; solid lines: significant. $^{**}p<0.05$; $^{***}p<0.01$

Negative anticipated emotions thus do not significantly mediate the relationship between advertising video type on internet and intention to adopt health risk-reducing behaviors (the Sobel test z-value = 1.50, $p > 0.05$). These results do not support *H2c*. Online audience flow significantly mediated the relationship between advertising video type on internet and intention to adopt health risk-reducing behaviors (the Sobel test z-value = 2.73, $p < 0.01$), supporting *H6*.

According to Hair *et al.* (2013), total VAF (variant account for) can tell researchers whether no, partial, or full mediation has been identified (Hair *et al.*, 2011). Full mediation typically yields ratios exceeding 80 percent, partial mediation typically yields ratios of 20-80 percent and no mediation yields ratios below 20 percent. The empirical results demonstrated that online audience flow and positive anticipated emotions significantly mediated the relationship between advertising video type (narrative/argument) on internet and intention to adopt health risk-reducing behaviors. This study obtained total VAF of 200 percent, and indicated that online audience flow and positive anticipated emotions fully mediated the relationship between advertising video type on internet and intention to adopt health risk-reducing behaviors.

4.2 High- vs low-flow narrator advertising video on internet

4.2.1 Convergent validity and discriminant validity. Table III lists information on the loadings of the measures of the research model. All items had significant path loadings at the 0.01 level and exceeded 0.7. The table shows that Cronbach's α values ranged from 0.73 to 0.96 for the seven constructs, indicating high internal consistency of measure reliability (Nunnally, 1978). Composite reliability was stated by examining ρc for constructs, and all exceeded the suggested threshold of 0.70, indicating good reliability. Regarding convergent validity, Table III lists the values of AVE for the seven constructs, and showed that all exceeded 0.50 (Barclay *et al.*, 1995), confirming that all measures displayed satisfactory convergent validity. Furthermore, regarding correlation matrix in Table IV, it showed the values of the square root of

Construct name	Items	Factor loading[a]	Cronbach α	Composite reliability (ρ_c)	AVE
Positive anticipated emotions (PAE)	PAE1	0.91	0.76	0.89	0.81
	PAE2	0.88			
Negative anticipated emotions (NAE)	NAE1	0.96	0.91	0.94	0.83
	NAE2	0.84			
	NAE3	0.95			
Anticipated regret (AR)	AR1	0.91	0.91	0.95	0.85
	AR2	0.95			
	AR3	0.91			
Audiences' flow (AF)	AF1	0.91	0.73	0.88	0.78
	AF2	0.85			
Intention to help others (IHO)	IHO1	0.91	0.85	0.91	0.77
	IHO2	0.93			
	IHO3	0.79			
Willingness to seek help (WSH)	WSH1	0.95	0.90	0.94	0.83
	WSH2	0.96			
	WSH3	0.96			
Intention to pass along online video advertising (PAI)	PAI1	0.92	0.96	0.97	0.90
	PAI2	0.92			
	PAI3	0.93			
	PAI4	0.88			

Table III. Results of measurement properties

Notes: $n = 227$. Based on the data from high- vs low-flow narrator advertising video on internet. [a]All item loadings were significant at $p < 0.01$

AVE for the measures on the diagonal all exceeded the correlations among the measures off the diagonal (Fornell and Larcker, 1981), and thus satisfactory discriminant validity was achieved.

4.2.2 t-Test for testing H3a-H3c, and H7. *t*-Test demonstrated that advertising video type (high/low flow narrator) on internet significantly affected the degree to which participants experienced positive anticipated emotions, $t = 2.67$, $p < 0.05$. Participants who viewed high-flow narrator advertising video on internet ($M = 3.7$, $SD = 0.78$) rated themselves higher on positive anticipated emotions than those who viewed low-flow narrator advertising video on internet ($M = 3.4$, $SD = 0.79$), supporting *H3a*. Ad-type significantly affected the degree to which participants experienced anticipated regret, $t = 3.85$, $p < 0.05$. Participants who viewed the high-flow narrator advertising video on internet ($M = 3.82$, $SD = 0.75$) rated themselves more highly on anticipated regret than did those who viewed the low flow narrator advertising video on internet ($M = 3.42$, $SD = 0.85$), supporting *H3b*. *t*-Test showed a non-significant effect of advertising video type on the degree to which participants experienced negative anticipated emotions, $t = 1.45$, $p > 0.05$. Participants who viewed the high-flow narrator advertising video on internet ($M = 2.73$, $SD = 0.85$) do not rate themselves significantly higher on negative anticipated emotions than those who viewed the low flow narrator advertising video on internet ($M = 2.56$, $SD = 0.85$). These results do not support *H3c*. The *t*-test demonstrated a significant influence of advertising video type on the degree to which participants experienced audience flow, $t = 4.03$, $p < 0.05$. Participants who viewed high-flow narrator advertising on internet ($M = 3.3$, $SD = 0.73$) rated themselves higher on

Table IV.
Means, standard deviations, correlations, and the square root of the average variance extracted

Construct name	Mean	SD	PAE	NAE	AR	AF	IHO	WSH	PAI
PAE	3.55	0.79	0.9						
NAE	2.65	0.86	0.14	0.91					
AR	3.64	0.82	0.46	0.16	0.92				
AF	3.10	0.79	0.28	0.18	0.36	0.88			
IHO	3.59	0.75	0.24	0.1	0.21	0.18	0.88		
WSH	3.81	0.78	0.39	0.03	0.33	0.19	0.61	0.91	
PAI	2.62	0.95	0.37	0.18	0.41	0.42	0.33	0.23	0.95

Notes: $n = 227$. Based on the data from high- vs low-flow narrator advertising video on internet. Values in the diagonal are the square root of the average variance extracted (AVE)

audience flow than those who viewed the low flow narrator advertising video on internet ($M = 2.88$, SD = 0.8), supporting *H7*.

4.2.3 Assessing the hierarchical construct in a structural model (testing H4a-H4c, H8). This study adopted the analysis method of Chang (2008) and encoded high-flow narrator advertising as 1, and low flow narrative advertising as 0, to indicate narrator flow, then placed the value under the PLS analysis. For the complete model (see Figure 3), this study obtained a *GoF* value of 0.47, which exceeded the cut-off value of 0.36 for large *GoF* and indicated that the proposed model performed well. On the other hand, PLS analysis of the structural model (Figure 3) explained 30 percent of the variance in intention to adopt health risk-reducing behaviors, which exceeded the cut-off value of 19 percent for R^2 proposed by previous studies (Hair *et al.*, 2013; Urbach and Ahlemann, 2010), and suggested the structural model has acceptable explanatory power. In addition, intention to adopt health risk-reducing behaviors (Figure 3) is a hierarchical construct with three second-order factors – intention to pass along online advertising video (55 percent for R^2), intention to help others (64 percent for R^2), and willingness to seek help (57 percent for R^2).

According to the results of PLS estimation in Figure 3, positive anticipated emotions significantly mediated the relationship between advertising video type (high/low-flow narrator) on internet and intention to adopt health risk-reducing behaviors (the Sobel test z-value = 2.52, $p < 0.05$), fully supporting *H4a*. Anticipated regret significantly mediated the relationship between advertising video type on internet and intention to adopt health risk-reducing behaviors (the Sobel test z-value = 3.81, $p < 0.01$), fully supporting *H4b*. Negative anticipated emotions do not significantly mediated the relationship between advertising video type on internet and intention to adopt health risk-reducing behaviors (the Sobel test z-value = 0.72, $p > 0.05$). These results did not support *H4c*. Online audience flow significantly mediated the relationship between advertisement type on internet and intention to adopt health risk-reducing behaviors (the Sobel test z-value = 2.76, $p < 0.05$), fully supporting *H8*.

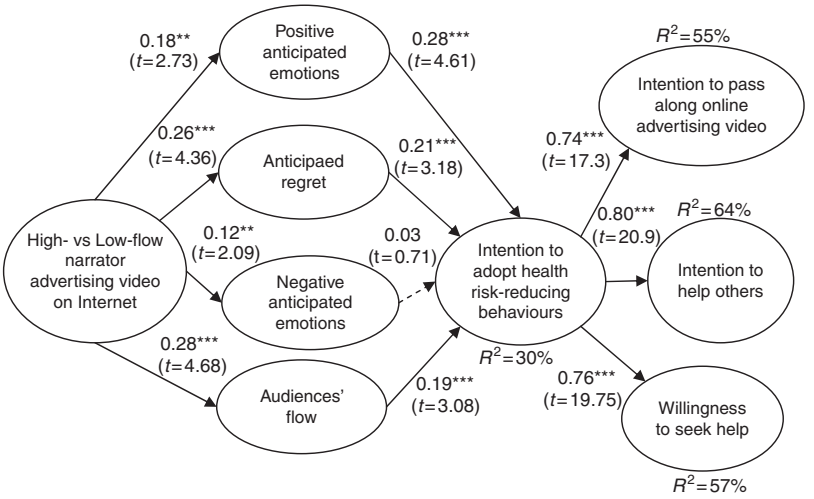

Figure 3.
Results for PLS analysis of high-flow narrator advertising model (high-flow narrator advertising vs low flow narrator advertising on internet)

Notes: Dashed lines: not significant; solid lines: significant. **$p<0.05$; ***$p<0.01$

The empirical results showed that audience flow, anticipated regret and positive anticipated emotions significantly mediated the relationship between advertising video type (high/low-flow narrator) on internet and intention to adopt health risk-reducing behaviors. This study obtained a total VAF value of 73 percent, which did not exceed the cut-off value of 80 percent for the partial mediating effect proposed by Hair *et al.* (2013) and suggested that audience flow, anticipated regret and positive anticipated emotions partially mediated the relationship between advertising video type on internet and intention to adopt health risk-reducing behaviors.

4.3 Comparison of the high-flow narrator advertising model and the narrative advertising model

The results of multi-group comparison path coefficient estimates indicated a significant difference ($t = 2.25$, $p < 0.05$) between narrative advertising and high-flow narrator advertising subsamples in terms of advertising video type on internet with intention to adopt health risk-reducing behaviors relationship. Thus, high-flow narrator advertising video on internet more significantly and directly impacted intention to adopt health risk-reducing behaviors than did narrative advertising video on internet. The result of Chow test (F-test) also revealed that the ability of the high flow narrator advertising model to explain intention to adopt health risk-reducing behaviors ($R^2 = 30$ percent in Figure 3) was significantly higher than that of the narrative advertising model ($R^2 = 25$ percent in Figure 3) ($F = 15.47$). Obviously, the ability of narrator flow to impact audience intention to adopt health risk-reducing behaviors is more direct and effective than for narrative advertising.

5. Discussion and conclusion

5.1 Conclusion

Based on the above analysis results, this study reaches the following conclusions. First, in comparison to argument advertising, narrative advertising is more likely to trigger emotional response from the audience such as positive anticipated emotions, anticipated regret, negative anticipated emotions, and audiences' flow. Due to the description of a personal story and context, narrative advertising is more likely to enable the audience to share the same emotional state as the narrator as the plot unfolds. The audience will also picture the causality in the events experienced by the narrator, thereby shortening the social distance between the advertisement narrator and the audience, allowing the audience to be closer to the narrator in mind and emotion. At the same time, the audience will more specifically realize the severity of the narrator facing depression, and realize the severe consequences of not handling depression carefully. Therefore the audiences are inspired regarding many issues concerning the association and thoughts of depression, including positive anticipated benefits from active prevention of depression, negative anticipated results from fear of regret. Argument advertising lacks causality and narrative guidance, therefore it is not likely to cause the audience to be immersed like in narrative advertising, and thus the reaction and follow-up effects on dealing with depression is not obvious.

Moreover, compared with internet narrative advertising video, internet narrator advertising video with an emotionally invested high-flow narrator can strengthen online audience intention to adopt risk-reducing behaviors more directly and positively. The empirical model of this study shows that the emotion of the narrator with a high degree of flow directly will influence the audiences' intention to adopt health

risk-reducing behaviors. In addition, results also show that a narrator with a high degree of flow will trigger various emotional responses, including positive anticipated emotions, anticipated regret, negative anticipated emotions, and audiences' flow. In other words, in the process of emotional contagion, as the audience tries to read the emotions of the narrator, they will start to imitate and imagine reaching a similar emotional experience as the narrator. Therefore the audience has a flow experience similar to the narrator, and the effects from viewing the event occurring to themselves from the same perspective of the narrator arise, such as the production of anticipated emotions and audiences' flow. At the same time this emotional experience further affects the subsequent behavioral intentions of the audience.

In brief, this study concluded the effect of two types of internet advertisement video; one is narrative/argument advertising video from the content of advertisement, and the other one is high/low flow narrator advertising video from the protagonist of advertisement. The two important parts of advertisement, the content and the protagonist, make a linkage of perspectives of narrative theory, and emotional contagion theory. The data reveals that audience emotions and behavior intention affected by the narrator is significantly greater than simply through the narrative advertising content. Thus, the relationship among narrative theory, emotional contagion theory, and cognition-attitude-behavior model is clarified. Through these findings, recommendations for research and practice are provided as follows.

5.2 Theoretical implications

Using narrative theory and emotional contagion theory, the empirical model presented in this study clearly demonstrated the important mental factors in the process of mental stimulation in watching internet advertising video. In addition, the study data revealed that the high-flow narrator advertising model had greater explanatory power than the narrative advertising model, as indicated by the significant increase in R^2 in intention to adopt health risk-reducing behaviors relationship. Through the perspective of emotional contagion theory (Hatfield *et al.*, 1993, 1994; Bakker, 2005), this study explored the psychological trait of audiences in the process of emotional contagion, including audiences' flow and various anticipated emotions and established a dialogue and relationship between emotional contagion theory and anticipated emotions perspective (Bagozzi *et al.*, 1998, 2003; Perugini and Bagozzi, 2001; Perugini and Conner, 2000). Through this, the narrator's efficiency and process of influence on the audience through emotional contagion can be more clearly and specifically described, to strengthen health marketing efficiency through strategy of emotional contagion. On the other hand, this study found that if the narrative advertising, shaped from perspective of narrative theory, is paired with emotional contagion theory to enrich and strengthen the narrator's emotional investment and experience level, the influence on audiences' follow-up behavior is much more direct and obvious. Therefore, this study initiates a dialogue and relationship between narrative theory and emotional contagion theory.

This study focusses on how online advertising video enables health communication. Recent research has discussed relating issues about online advertising, such as the effect of narrative online advertising on products (e.g. Ching *et al.*, 2013), internet adverting adoption (e.g. Hanafizadeh *et al.*, 2012), and cross-cultural comparison of advertising appeals on antismoking website (e.g. Yu *et al.*, 2008). Ching *et al.* (2013) focussed specifically on narrative online advertising which embraces four types of elements

(interactivity, vividness, entertainment, and self-referencing) facilitating consumers' attitude toward product. In particular, the narrative advertising video in this study aroused positive anticipated emotions, but did not correspond to the entertainment element in Ching *et al.* (2013). For promoting people to adopt health risk-reducing behaviors, it is more critical in arousing positive emotions rather than entertaining audiences. In addition, this study contributes to find out the internal factors of online advertising video design, rather than the factors from external environments to adopt internet advertising in Hanafizadeh *et al.* (2012), such as advertising agencies, internet publishers, and government role. Furthermore, advertising appeals consist of content indicating the targeted people's interests, goals, or problems, such as humor, threat, curiosity (Yu *et al.*, 2008); this study, discussing four types of online advertising video (narrative/argument advertising, and high/low flow narrator advertising), broadens the scope of online advertising video design in the content as well as the protagonist in the advertising, and enriches the research field of online advertising appeals for health promotion.

Viral video advertising, delivering video-based message through interactive and web-based environment (Huang *et al.*, 2013), is another topic related to online advertising video. Viral video advertising has been used by companies to spread their product and brand information. Recent research focusses on what factors influence audience sharing intention of the viral video, including adoption of cognition-attitude-behavior model (Huang *et al.*, 2013), emotional aspect of the video content (Berger and Milkman, 2012), and relevance of the video content and participants' emotional reactions (Botha and Reyneke, 2013) to explain sharing intention of the viral video. Similarly, this study, similar to viral video advertising, also discussed intention to pass along online advertising video to others, and indicated that types of online advertising video, through flow experience and anticipated emotions of audience, can not only promote audience's intention to pass along video to others but also improve audience's willingness to seek help or help others. In particular, this study broadly discusses various types of behavior intentions after watching an online advertising video.

An unique implication of this study is the design of online advertising video for health promotion. For public health purpose, USA and New Zealand have allowed direct-to-consumer advertising (DTCA) of prescription drugs. DTCA refers to advertisement that are directed to patients, the final consumers of the pharmaceutical product (Avery *et al.*, 2012). DTCA can bring several benefits for public, such as increasing awareness of diseases, educating patients about treatment options, and motivating patients to contact their doctors and engage in a dialogue about health concerns (Avery *et al.*, 2012; Frosch *et al.*, 2010). However, many researchers also worry about negative influence of the DTCA, such as not fully disclosing drug risk, promoting overuse of medication, increasing unnecessary medication seeking, and putting pressure for doctors to prescribe new, expansive, but limitedly helpful drugs (Frosch *et al.*, 2010; Callaghan *et al.*, 2013). Compared with explicit drug instructions in DTCA, this study suggests to design an implicit intention embedded in an internet advertising video from aspects of narrative contents and flow of narrator to promote public health. After watching well-designed internet advertising video, it is expected that audiences are also increasingly aware of health issues, encouraged to contact their doctors for seeking help, and unlikely stimulated to overuse of medication. In brief, this study, based on designing the content of online advertising videos, contributes to enrich the research field of health communication and promotion for public welfare.

5.3 Practical implications

Based on the above analysis, narrative advertising video on internet, comparing with argument advertising video, is more likely to enable the online audience to share the

same emotional state as the narrator as the plot unfolds. In addition, narrative advertising video on internet is not direct, but rather draws on flow and positive anticipated emotions to stimulate the production of online audience intention to adopt health risk-reducing behavior. Therefore, narrative advertising should be the first choice, and the narrative advertising should have clear objectives and significance. Regarding the narrative structure design for advocacy health-related issues, some suggestions are provided. The narrative content structure should emphasize the plot related to target audiences, describe the causal relationship between narrative events, be chronological, and be narrated in first person. In addition, the narrative advertisement should help the audience to truly understand advertisement content, guide audience anticipation, shape behavioral intention, prioritize the stimulation of positive anticipation from the audience rather than regret or negative anticipation, and strengthen future intention to adopt health risk-reducing behavior.

The empirical data in this study show that, unlike narrative advertising video, which influences intention to adopt health risk-reducing behaviors through flow and positive anticipated emotions, advertising video with an emotionally invested narrator, such as high-flow narrator advertising, directly and positively strengthens audience intention to adopt risk-reducing behaviors. Therefore to successfully influence audience intention to adopt health risk-reducing behaviors with emotional contagion, and strengthen the persuasive effects of health marketing, narrator involvement in the advertisement should be increased, and shortening the social distance between audience and narrator should be critical. For example, narrator expression, posture, voice, and behavior should be highly invested, rich, obvious, and diverse to match the principles of emotional contagion. In addition, with understanding the severity of the narrator facing depression, online audiences' imitation and imagination can be shaped by the emotional contagion environment, and ultimately realize the severe consequences of not handling depression carefully.

Furthermore, the study model demonstrates that a narrator with high-flow triggers various emotional responses, including positive anticipated emotions, anticipated regret, negative anticipated emotions, and audience flow. Simultaneously positive anticipated emotions, anticipated regret further influence subsequent audience risk-reducing behaviors. In addition, the study data reveals that the high-flow narrator advertising model had greater explanatory power than the narrative advertising model. The finding reflects that, for health issue advocacy internet advertisement designs, besides the narrative content as the main type of advertising video on internet, the emotional reflection of the narrator is more critical. Therefore, directors of online advertising videos should put more effort to make proper instructions to protagonists, especially in the performing skills in emotions.

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Further reading

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(The Appendix follows overleaf.)

Appendix

Narrative advertising on internet	Depression may be destroying your life!! A melancholy violin tune permeated the evening air, slowly and lonely It used to be from a college student, Chien "The violin can only be a hobby. You should get a master's degree in order to get a decent job. You are not so naïve that you believe you can earn a living playing the violin, are you?" said her mother with a sarcastic voice With her mother's voice echoing in the dark room, Chien lost her interest in violin. She kept thinking, "Why is everything I do wrong except for studying? I have taken one exam after another. Why should I take the exams for graduate school like everyone else?" Her thoughts kept her awake all night as they had many other nights Under the bed, the violin she used to love was hidden At campus, everyone was talking about taking exams for graduate programs "Chien, what programs are you interested in?" asked one of her classmates She kept walking without responding to this question, thinking, "No one understands what I want. I live in my lonely shell." The moment she gets home, she crawls into the corner of her room She doubts the value of her mere existence. She thinks about ending everything With a knife in her trembling hand, her only thought is, "If I do it, will all my suffering end?" […]
Argument advertising on internet	Depression may be destroying your life!! Do you understand depression? Think about how your life will change if these symptoms develop. Sleeplessness or insomnia One of the most common symptoms for those who suffer from depression is insomnia. With erratic sleep, you cannot have a full night's rest Sadness Depressed people often are swamped by their sadness, and they start to lose interest in people and things about which they used to care They are reluctant to communicate with others and cannot gain timely support from others Suicidal thoughts When depressed people cannot get relief from their sadness, they think about committing suicide to end their suffering. Suicidal thoughts keep coming back Do not let depression disrupt the rhythm of your life. Keep your spirits high and face your life with optimism […]

Table AI.
Narrative advertising vs argument advertising on internet

Source: Chang (2008)

Table AII.
Measurement scales

Construct	Item	
Positive anticipated emotions (PAE)	PAE1	After watching this video, I will face the future optimistically
	PAE2	After watching this video, I will try creating opportunities facing the future
Negative anticipated emotions (NAE)	NAE1	After watching this video, I will feel helpless about the future
	NAE2	After watching this video, I will feel empty about the future
	NAE3	After watching this video, I will feel worried about the future
Anticipated regret (AR)	AR1	After watching this video, I will regret lacking the courage to chase my dreams in the future
	AR2	After watching this video, I will regret not trying my best to accomplish whatever I want
	AR3	After watching this video, I will feel depressed about lacking the opportunity to accomplish what I want to in future
Audience flow (AF)	AF1	The advertisement drew me in
	AF2	The advertisement really intrigued me
Intention to help others (IHO)	IHO1	If I knew someone close to me who was suffering depression, I would take the initiative to keep him (her) company
	IHO2	If I knew someone close to me who was troubled by depression, I would speak out for him (her) as appropriate to change the misguided and discriminatory public attitudes
	IHO3	I am willing to become a volunteer to advocate for depression prevention
Willingness to seek help (WSH)	WSH1	Do not isolate yourself: get outdoors and enjoy all the colorful things that are pleasing to the senses
	WSH2	Try to relax: depression is frequently associated with tension and stress. Find out what helps you relax, and give yourself time to unwind
	WSH3	Share experiences: talking to a positive and supportive friend or relative will help, and will make you feel less isolated
Intention to pass along online video advertising (PAI)	PAI1	I think this film is worth sharing with others
	PAI2	I will recommend this film to others
	PAI3	I will share this film with friends in my e-mail address book
	PAI4	Overall, I am willing to forward this video to others

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