Master Thesis

The influence of L1 voice-overs, L2 voice-overs, and L2 voice-overs with L1 subtitles on Narrative Persuasion

By:
Sjoerd van den Berg
Student number: 4363930
Student email: s.vanden.berg@student.ru.nl
Course: Master Thesis International Business Communication
Supervisors: Dr. Frank van Meurs and Dr. Andreu van Hooft
Radboud University
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Abstract
People are increasingly confronted with narratives in a visual form in advertisements, films, and series, often in the viewers' second language. These visual narratives make use of different language strategies such as dubbing, voice-overs, and subtitling. The aim of this study was to find out to what extent first and second language voice-overs, and second language voice-overs with first language subtitles influence the level of identification, transportation, spatial presence, flow, enjoyment, narrative understanding, and story-consistent beliefs in a non-overtly persuasive visual narrative amongst Dutch nationals. A total of 150 Dutch students from the Radboud University participated in the research. The materials consisted of adapted two John Lewis Christmas advertisements. The original soundtracks of the videos, which contained only music, were stripped. Two stories, related to the content of the videos, were written and then recorded as audio and put back into the video in the different language strategies (Dutch voice-over, English voice-over, English voice-over with Dutch Subtitles, No voice-over or subtitles). The results of this study indicate that a difference in language strategy does not impact the levels of identification, transportation, spatial presence, flow, enjoyment, narrative understanding, and story-consistent beliefs. In conclusion, voice-overs and subtitling were considered as equally effective means of translation. This is in line with previous research about the effectiveness of dubbing and subtitling (Wissmath et al., 2009).
1.1 Introduction
People are increasingly confronted with narratives in a visual form in advertisements, films, and series, often in the viewers' second language. These narratives are presented in different ways, for example spoken in the country’s native language, a foreign language, or a foreign language with native subtitles, depending on what is customary in the country. In some countries, for example Germany and France, dubbing in a first (native) language (L1) is most commonly used and in other countries, such as the Netherlands, subtitling is frequently used. Narratives in visual form are not just found on television but also on the internet. Due to the increasing popularity of the internet over the years, advertising companies are no longer limited to producing short, 30-second, advertisements for television emphasizing their products or services. Advertising agencies have the ability to decide to invest in a longer advertisement and make use of narrative persuasion to influence people in a less overtly persuasive manner.

It has been empirically established that narratives can have a persuasive impact on the beliefs and attitude of an individual (Beentjes, de Graaf, Hoeken & Sanders, 2009; de Graaf, Hoeken, Sanders & Beentjes, 2012; Green & Brock, 2000; Hoeken & Fikkers, 2014). However, the question is whether a narrative has more, less, or equal persuasive influence when the narrative is in a person’s first or second language; and for visual narratives (e.g. TV films, commercials), whether voice-overs and subtitling differently affect the attitude or beliefs of a viewer.

1.2 Narrative persuasion
In order to define narrative persuasion, it is of importance to first mention what, according to previous research, constitutes a narrative. A narrative consists of events, characters, plots, and it also needs to have a beginning, middle, and end (Kvernbekk, 2003). Narrative persuasion can be defined as follows: “Narrative persuasion refers to the acceptance of attitudes and beliefs as a result of processing stories that are not overtly persuasive” (Beentjes et al., 2009, p. 246). An example of narrative persuasion is given by Slater, Rouner, and Long (2006), who established that watching an episode of Law & Order could change the personal beliefs of the US viewer towards the American justice system.

Green and Brock (2002, as cited in Beentjes et al, 2009, p. 246) argue that there are two sorts of persuasion; narrative persuasion and rhetorical persuasion. The
difference between these concepts is the extent of persuasiveness used in the message. Rhetorical persuasion revolves around overtly persuasive messages such as advertisements, whereas narrative persuasion revolves around messages that are not overtly persuasive such as films (Beentjes et al., 2009). Even though these two types of persuasion are on paper linked to forms of communication such as advertisements and films, the difference can be less clear in real life due to diverse reasons. For example, some limitations to creating advertisements such as the time-limit due to television advertising costs have been lifted by the onset of the internet as a medium. As a possible consequence, advertising agencies have the ability to produce longer, non-overtly persuasive advertisements and thereby enable advertisements to be categorized under narrative persuasion. In contrast, advertising also takes place in films through for example, product placement and some films are only created to promote a brand, for example a film about the band one-direction (One Direction: This Is Us, 2013). The current study focuses on narrative persuasion. In research into the effectiveness of narrative persuasion several aspects have been measured and were deemed influential. These aspects are identification, transportation, spatial presence, flow, enjoyment, and narrative understanding.

1.3.1 Identification

The concept of identification revolves around the reader’s or viewer’s ability to adopt the perspective of a character (De Graaf et al., 2012). According to various researchers, the concept of identification plays a crucial part in narrative persuasion because it seems to be a predictor for attitude (Beentjes et al., 2009; Cho, Shen & Wilson, 2012; De Graaf et al., 2012; Slater & Rouner, 2002). In other words, identification with the character in a narrative seems to be able to change a person’s attitude or beliefs in such a way that they are more in line with those of the character in the narrative. This coincides with findings in De Graaf et al.’s (2012) two-fold study into identification as a mechanism of narrative persuasion. De Graaf et al. (2012) found that identification with a character could influence the attitude of a reader or viewer. Furthermore, Green, Brock, and Kaufman (2004) mention that identification with the character in a narrative is a precondition for the next influential aspect explained below: transportation. For these reasons, identification is a key factor in the current study.
1.3.2 Transportation

Whilst identification is about the connection with a character in a narrative, transportation is about the level in which a reader or viewer is engrossed in a narrative. Transportation is also sometimes referred to as absorption (Slater & Rouner, 2002) or emotional involvement (Cho, et al., 2012). Green and Brock (2000) argue that in order for transportation to take place the narrative needs to have a beginning, middle and end. In addition, it has to either “…raise unanswered questions, present unresolved conflicts, or depict not yet completed activity” (Green & Brock, 2000, p. 701). This is in accordance with the elements of a narrative by Kvernbekk (2003) as previously mentioned in the identification section above.

Research by Beentjes et al., 2009; Cho et al., 2012; Green and Brock, 2000; Wissmath, Weibel, and Groner, 2009 supports the necessity of looking at transportation when researching narrative persuasion because like identification, transportation also seems to affect real-world beliefs.

1.3.4 Spatial presence

Spatial presence differs from transportation in the sense that transportation is the amount that a viewer is engrossed in a narrative, and spatial presence is about the illusion of actually being located in the narrative environment without noticing the medium through which it is viewed (Ijsselsteijn, Freeman & de Ridder, 2001).

In order to further explain the notion of spatial presence a definition is needed. Although it is originally derived from the concept of presence as researched by, amongst others, Kim and Biocca (1997), and Lombard, Reich, Grabe, Bracken, and Ditton (2000), spatial presence is commonly referred to as “a sense of being there” which “occurs when part or all of a person’s perception fails to accurately acknowledge the role of technology that makes it appear that s/he is in a physical location and environment different from her/his actual location and environment in the physical world” (International Society for Presence Research, as cited in Wirth et al., 2007, p. 495). To illustrate the concept, Ijsselsteijn et al. (2001) used an example by philosopher Daniel Dennett of a ‘Cinerama’ to highlight an occurrence of spatial presence. The Cinerama was a panorama video projection that seemed to make viewers believe they were actually undergoing what was happening on the screen. One of the earliest films displayed at the Cinerama was that of a rollercoaster ride.
During the display of this film, it was not uncommon for the audience to shriek and twist in their seats. The audience seemed to believe they were experiencing what was happening in the film without realizing they were watching a film. Therefore, when people forget about the medium on which a narrative is viewed and thus believe to be in the narrative world, it appears that the level of spatial presence might be an influential factor into the amount of transportation experienced, which in turn together with identification can lead to the adoption of beliefs expressed in a narrative.

1.3.5 Flow
A complementary concept to spatial presence is the theory of flow. Flow describes the immersion in an action such as watching a visual narrative without being distracted. The concept of spatial presence, transportation and identification seem to be highly dependent on a lack of distraction. Buselle and Bilandzic (2009, p. 341) argue that “Consistent with our theoretical approach and with the tenets of the concept of flow, a truly engaged viewer should be unaware of focused attention, and should become aware only if attention drifts or must be refocused. Essentially, one should not be aware that one is not distracted”. Furthermore, they mention that flow could be a mediating factor for identification and transportation. Wissmath et al. (2009) also highlight the importance of looking at flow, stating that watching a film results in, amongst other things, intense involvement, and suppression of distractors. In their study, bivariate correlations between flow, transportation, and spatial presence were highly significant.

1.4 Narrative understanding and emotionality - L1 versus L2
Although it has not been previously researched, one could argue whether the extent to which a narrative is comprehended influences the amount of identification, transportation and spatial presence. If key elements of a narrative are not properly understood, and the viewer is distracted by the questions that a lack of comprehension, also called narrative understanding, brings forth, it could potentially shift the focus from engaging in the narrative to focussing all mental activity on the questions that a lack of understanding of the narrative might raise. Buselle and Bilandzic (2009) corroborate this by stating that engagement should suffer if other mental processes are at work. The level of narrative understanding may be affected by various aspects such as distraction (Buselle & Bilandzic, 2009), and choice and
difficulty of language, which was researched by Hornikx, van Meurs, & de Boer (2010) in the context of advertisement slogans.

Distraction, which inhibits flow, according to Buselle and Bilandzic (2009) consists of narrative external and narrative internal factors. Narrative external factors constitute of a disturbance in the five methods of perception (sound, sight, touch, smell, and taste), whereas narrative internal factors revolve around elements within a narrative that divert attention from comprehension and include for example a plot flaw, character-inconsistent behaviour or the use of a second language that is not understood as well as a first language. Distraction influences engagement with the narrative. Buselle and Bilandzic (2009) state that the higher the level of engagement the higher the level of enjoyment. This coincides with findings by Green et al. (2004) who found that transportation highly correlated with enjoyment. Therefore, the level of enjoyment is an important factor to look at when researching narrative persuasion due to the predictive abilities for engagement and the correlating effect with transportation.

Enjoyment is also related to the choice of language. Hornikx and Starren (2006) and Hornikx et al. (2010) showed that a foreign language influences the level of appreciation, a term also sometimes named enjoyment (Wissmath et al., 2009), of a person viewing an advertisement. In their studies into the appreciation of advertising slogans amongst Dutch natives, Hornikx and Starren (2006), and Hornikx et al. (2010) found that easy to understand slogans in a second language (L2) were appreciated more than slogans in a first language (L1), however Hornikx et al. (2010), when the slogans were more difficult the L1 and L2 were equally appreciated. Though the study by Hornikx et al. (2010) showed an L1 and L2 to be perceived as equally appreciated when a text was more difficult, a study by Puntoni, de Langhe, and van Osselaer (2009) amongst bilingual speakers highlights a preference for messages in an L1 due to the increase in emotionality. They found that messages in a person’s L1 seem to be perceived as more emotional than messages in a person’s L2. Therefore, their research suggests that due to this increase in emotionality in an L1, it seems that emotional involvement (transportation) may be more present when a persuasive narrative is viewed in a person’s L1 than in their L2.

That fluency in a language affects the comprehension of a narrative is without doubt. Dufour and Kroll (1995) suggest a possible cause for this phenomenon in their Revised Hierarchical Model of how conceptual and lexical links are processed by the
brain in L1 and L2, studied with bilingual participants. Fluent bilingual speakers seem to have an increased conceptual and lexical link enhancing their ability to receive and process information provided in an L2 language. Less fluent bilinguals, however, seem to be more receptive to information provided in their first language. Therefore, the language proficiency of an individual should be measured when researching the influence of language strategies. The findings by Hornikx et al. (2010) about the equal appreciation of L1 and L2 and the findings by Puntoni et al. (2009) that highlight the preference of an L1 do not provide a unanimous answer when it comes to selecting an L1 or L2 for advertisements; it therefore indicates that further research is needed.

1.5 Subtitling versus Voice-overs

The use of, effect of, and preference of L1 and L2 in persuasive narratives and their influence on the level of identification, transportation, spatial presence, flow, and enjoyment can be researched by means of manipulation of translation methods. There are various translation methods that are commonly used both in films and advertisements, often depending on the country where the advertisement is viewed. These translation methods include voice-overs, subtitling, dubbing, or a combination of these. The effects of these translation methods on identification, transportation, spatial presence, flow, and enjoyment have, up till now, not been extensively researched. The effect of translation methods, in particular dubbing vs. subtitling, on enjoyment has been previously researched by Rader, Neuendorf, and Skalski (2015), who found no difference in enjoyment between the two methods. The researchers that seem to have conducted the most encompassing research into the effect of translation methods on transportation, spatial presence, flow, and enjoyment (not including identification and narrative understanding) though are Wissmath et al. (2009).

In Wissmath et al. (2009) it was researched, amongst Swiss students with the native language German, how dubbing and subtitling affected transportation, spatial presence, flow, and enjoyment. In their study they compared dubbing (replacement of the original foreign soundtrack with a dubbed audio track in the L1 of the viewer), subtitling (the original foreign soundtrack with subtitles in the L1) and dubbing with foreign subtitles (replacement of the original foreign soundtrack with a dubbed audio track in the L1 of the viewer but including the text from the original soundtrack in foreign language subtitles) in professionally produced films. Even though their study failed to produce significant differences between dubbed and subtitles films they did
find a small indication that “…dubbed films evoke more immersion than dubbed films with foreign subtitles” (Wissmath et al., 2009, p.121). An explanation provided by Wissmath et al. (2009) for this is that dubbed films with foreign subtitles increase the workload of the brain because it needs to process the non-L1 language on the screen and therefore reduces spatial presence. In addition to the reduced amount of spatial presence, experiences of transportation were also significantly reduced in this condition. In conclusion, Wissmath et al. (2009) indicated that especially the concept of transportation seems to be of crucial importance in research into translation methods and its effect on identification with characters.

As previously mentioned, Wissmath et al. (2009) found indications that language strategies have a different impact in L1 or L2 (increased workload of the brain for L2) on transportation, spatial presence, flow, and enjoyment. One can also imagine that the level of identification with the character could be dependent on the level of comprehension of the narrative, due to the story being illogical or not understood because of narrative external and/or narrative internal distractions (cf. Buselle and Bilandzic, 2009). Wissmath et al. (2009) highlight that in their experiment viewers might have been distracted in the dubbed conditions due to the fact that the movements of the faces were not in line with the words spoken (lip-sync). To avoid viewer distraction due to this issue, an alternative method for a visual narrative can be used, namely; without characters speaking but with a narrator producing a voice-over. This makes it possible to research the effect of language strategies on identification, transportation, spatial presence, flow and enjoyment in a more fundamental way with a difference in language, but without the distracting factor of imperfect lip-synching that occurs when using dubbing.

1.6 Dutch nationals
As with the Swiss in the research by Wissmath et al. (2009), Dutch nationals have been subjected to multiple language strategies in films and television programmes and are therefore an interesting target group for narrative research. In the early stages of their lives Dutch citizens encounter dubbing or voice-overs, which are frequently used in children's television shows and films. In cinemas there is often an option to watch children's films in either a dubbed version or a subtitled version. For foreign films and series on television there are almost always Dutch subtitles. Due to the familiarity with multiple language strategies of the Dutch people, there is an expected decrease in
the amount of language strategy bias. If people had only been subjected to, for example, dubbing, it would be expected to find a preference for that language strategy because it has been the only one that people have experienced.

So far, the effects of dubbing and subtitling on identification, transportation, spatial presence, flow, enjoyment, first and second language comprehension, and story-consistent beliefs have not been researched together. This current study will focus on combining all these concepts in an experimental study centred around non-overtly persuasive visual narratives, to find out to what extent language choice and language strategies influences these concepts. This leads to the following research question.

*To what extent do L1 voice-overs, L2 voice-overs, and L2 voice-overs with L1 subtitles influence the level of identification, transportation, spatial presence, flow, enjoyment, narrative understanding, and story-consistent beliefs in non-overtly persuasive visual narratives when viewed by Dutch nationals?*

### 1.7 Theoretical relevance

The study by Wissmath et al. (2009) investigated the effect of dubbing and subtitling on transportation, spatial presence, flow, and enjoyment in 30-minute films of different genres. The present study will shift the focus to non-overtly persuasive advertisements that have a shorter time frame than the films used in the Wissmath study to establish the generalizability to shorter videos such as advertisements. Instead of dubbing, the current study will focus on voice-overs by a narrator to eliminate possible irritation due to imperfect lip-syncing and thus attempt to research the language effect in a purer form. It will also include the concept of identification as a dependent variables because of its relevance to the ability to change a viewer’s attitude, and the concept of narrative understanding in order to provide insight into whether understanding affects the above mentioned concepts.

### 1.8 Practical relevance

People are confronted with stories in advertisements, films, series in a visual form on a daily basis. This research is of importance to for example, advertising agencies that want to produce advertisements by presenting them as non-overtly persuasive narratives to try and influence the attitude of the viewer so that they have a
more favourable attitude towards the company or product. If advertising agencies would like to display the advertisement in different countries this research will highlight what the effects of first or second language perceptions are, and help to make the choice between adaptation to local language or standardization of the advertisement.

2. Method

2.1 Research design

In order to be able to investigate the influence of language strategy on narrative persuasion, an experiment with a mixed 2 (different short narratives) x 4 (language strategy: L1 voice-over, L2 voice-over, L2 voice-over with L1 subtitles, No voice-over) factorial design was conducted.

In addition to the four versions, just like in the research by Green and Brock (2000), a control group was added to measure story-consistent beliefs. This group did not see any videos but answered the questionnaire items that measured story-consistent beliefs.

2.2 Materials

Two two-minute Christmas advertisements by the English department store John Lewis from 2013 and 2014 (links in reference list) were adapted by means of adding voice-overs and subtitles. These specific advertisements were selected because they display similar stories in a different setting. The 2013 advertisement is fully animated and is about the friendship between a bear and a hare. The 2014 advertisement is partially animated and depicts the friendship between a boy and a penguin. A multiple-message design (Jackson, O’Keefe, Jacobs, & Brashers, 1989) was used to avoid the results being due to a certain aspect of one of the commercials. The original soundtrack (that only contains music) was stripped from the videos, and per video, four new language conditions were added: English voice-over, Dutch voice over, English voice-over with Dutch subtitles, and the advertisement without any spoken or subtitled text. The script for the language conditions was written and translated by the researcher and back-translated by Dr. Brigitte Planken of the Radboud University, who is a balanced bilingual speaker of Dutch and English, to make the texts (Appendix 2) as equal as possible. The voice-over was originally recorded by Dr. Brigitte Planken, but after the results of the first pre-test it was re-recorded by the
researcher (also a balanced bilingual speaker of Dutch and English).

2.2.1 Pre-test
To check whether the style of speaking was consistent in the Dutch and English versions of the materials, 24 people (75% female) participated in a pre-test. The mean age of the respondents was 27 (SD = 10.29, range 19 to 61). The majority of the participants (66.7%) followed a university level education. The questions were based on a scale taken from Hendriks, van Meurs, and van der Meij (2015, p. 122) and consisted of the following items: “this speaker”: “is fluent – not fluent; has a good – bad pronunciation; has a good – bad intonation; has a good – bad pace; is convincing – not convincing”. The participants saw either the Dutch spoken 2013 and 2014 commercial or the English spoken 2013 and 2014 commercial. This was done to prevent the participants from knowing what the pre-test was about. The results of the pre-test indicated that the speaker was rated poorly on intonation (English: $M = 3.17$, $SD = 1.03$; Dutch: $M = 3.17$, $SD = 1.03$) and ability to convince (English: $M = 2.92$, $SD = 1.17$; Dutch: $M = 3.33$, $SD = 1.16$). This could be explained due to the fact that the researcher had to cut all the lines of the speaker's audio recording and place them at the correct position in the video. This might have caused a lack of flow in the voice. As a result, it was decided to re-record the voice-overs directly with the film in single takes.

2.2.2 Pre-test 2
As a result of changes made due to the information from the first pre-test, a second pre-test was conducted amongst 18 participants (78% female) to test whether the voice-overs were now considered equal in the Dutch and English materials. The mean age of the respondents was 23 (SD = 7.75, range 16 to 52). The majority of the participants (61.1%) followed a university level education. The questions were based on a scale taken from Hendriks, van Meurs, and van der Meij (2015, p. 122) and consisted of the following items: “this speaker”: “is fluent – not fluent; has a good – bad pronunciation; has a good – bad intonation; has a good – bad pace; is convincing – not convincing”. The participants saw either the Dutch spoken 2013 and 2014 commercial or the English spoken 2013 and 2014 commercial. This was done to prevent the participants from knowing what the pre-test was about. Two independent samples t-tests, one for the 2013 video in English and Dutch ($t(16) = 0.36, p = .749$)
and the other for the 2014 video in English and Dutch ($t(16) = 1.41, p = .176$) showed that the voice-overs were now considered equal between the materials. All the means were now above the scale average (4) including intonation (English $M = 4.67$, $SD = 0.50$; Dutch $M = 4.33$, $SD = 0.71$), and the ability to convince (English $M = 4.00$, $SD = 1.00$; Dutch $M = 4.11$, $SD = 0.78$).

2.3 Subjects

A total of 150 students from the Netherlands participated. The mean age of the respondents was 21 ($SD = 2.00$, range 17 to 29). Of the 150 respondents, 75% (113) were female and 25% (37) were male. The majority of the respondents followed an education at University level (97.3%). All of the students had the Dutch nationality; 97.3% (146) students indicated that Dutch was their primary language, and 2.7% (4) students indicated that they were raised bilingually.

Due to the language focus of the current study the participants were asked to self-asses their language skills (reading, writing, speaking, listening) in both English and Dutch. A reliability analysis showed that the scales for Dutch language skills, $\alpha = .87$ and English language skills, $\alpha = .76$ were reliable. As a result, composite means were created for language skills.

To establish whether the groups for each condition were comparable, a series of tests were conducted. A Chi-square test showed no significant relation between Language condition and Gender ($\chi^2 (40) = 40.74, p = .438$). Therefore, gender was found to be equally distributed among the different language conditions. To check whether the subjects had seen the original version of the materials prior to taking part in the experiment 'Familiarity' was tested by means of a 'yes' or 'no' question. The results of a frequency analysis showed that 11.3% (17) had previously seen the 2013 advertisement and 22.7% (34) had previously seen the 2014 advertisement. A Chi-square test between Language condition (excluding the condition without videos) and Familiarity with the 2013 advertisement showed no significant relation ($\chi^2 (3) = 4.04, p = .257$). A Chi-square test between Language condition (excluding the condition without videos) and Familiarity with the 2014 advertisement showed no significant relation ($\chi^2 (3) = 1.48, p = .687$).

A One-Way ANOVA showed no significant difference in the age of the participants among language conditions ($F (4, 145) = <1$). A One-Way ANOVA showed no significant difference in education of the participants among language
conditions \( (F(4, 145) = 1.55, p = .190) \).

A One-Way ANOVA showed no significant difference in English language skills of the participants among language conditions (excluding the condition without videos) \( (F(3, 116) = <1) \). A One-Way ANOVA showed no significant difference in Dutch language skills of the participants among language conditions (excluding the condition without videos) \( (F(3, 116) = <1) \). In addition, a paired samples t-test showed a significant difference between the overall Dutch and English language proficiency \( (t(119) = 10.42, p = <.001) \). Dutch language proficiency was rated significantly higher \( (M = 6.59, SD = 0.51) \) than English language proficiency \( (M = 5.80, SD = 0.51) \).

Two one-sample t-tests were conducted for Language proficiency to evaluate whether the mean was significantly different from the neutral midpoint of the scale (4) for Dutch and English. The sample mean for Dutch language proficiency \( (6.59; SD = 0.51) \) was significantly different from 4 \( (t(119) = 55.77, p < .001) \). The effect size \( d \) of 5.08 indicates a large effect. The sample mean for English language proficiency \( (5.80; SD = 0.51) \) was significantly different from 4 \( (t(119) = 23.28, p < .001) \). The effect size \( d \) of 3.53 indicates a large effect. The results support the conclusion that the Dutch participants had a higher than average proficiency in both English and Dutch. The groups for all conditions did not vary significantly based on the above variables and were therefore deemed comparable.

### 2.4 Instruments

There was one questionnaire that contained all the items (Appendix 1), for the four language conditions (Dutch voice-over, English voice-over, English voice-over with Dutch subtitles, No voice-over no subtitles), and one questionnaire with questions to measure story-consistent beliefs and demographics. The original English scale items were translated by the researcher and back-translated by Dr. Frank van Meurs of the Radboud University (a full list of the English and Dutch items can be found in Appendix 3). Composite means were calculated if the scales were deemed reliable (Cronbach’s \( \alpha > .70 \)). In cases where Cronbach's Alpha was below .70, inter-item correlation means were calculated and analysed. A score between .2 and .4 was deemed acceptable (Briggs & Cheek, 1986).
2.4.1 Identification
Identification was measured with an adapted 10-item scale from De Graaf et al. (2012) on 7-point Likert scales ranging from completely disagree to completely agree. Prior to the identification questions, the participants were asked to indicate whether they thought the hare or bear (for the 2013 video) and the boy or penguin (for the 2014) was the main character. An example of an item is "I sympathised with the bear". The reliability of ‘Identification’ comprising ten items was good for the participants that identified with the bear ($\alpha = .96$) (2013 version), and with the hare ($\alpha = .94$) (2013 version), and good for the people that identified with the boy ($\alpha = .94$) (2014 version), and with the penguin ($\alpha = .93$) (2014 version).

2.4.2 Transportation
Transportation was measured with an adapted 10-item scale from Green and Brock (2000) on 7-point Likert scales ranging from completely disagree to completely agree. An example of an item is "While watching the story, it was easy for me to imagine that the events were happening there". The reliability of ‘Transportation’ comprising eleven items was good for the 2013 video ($\alpha = .80$) and acceptable for the 2014 video ($\alpha = .76$).

2.4.3 Spatial presence
Spatial presence was measured with an adapted 8-item scale from Kim and Biocca (1997) on 7-point Likert scales ranging from completely disagree to completely agree. An example of an item is "When the story had ended, it felt as if I came back in the ‘real world’ after a journey”. The reliability of ‘Spatial presence’ comprising eight items was good for both the 2013 video ($\alpha = .88$) and the 2014 video ($\alpha = .90$).

2.4.4 Flow
Flow was measured with a 3-item scale from Buselle and Bilandzic (2009) on 7-point Likert scales ranging from completely disagree to completely agree. An example of an item is "I noticed that my thoughts were darting around while the video was playing”. The reliability of ‘Flow’ comprising three items was good for both the 2013 video ($\alpha = .93$) and the 2014 video ($\alpha = .93$).

2.4.5 Enjoyment
Enjoyment was measured with an adapted 1-item scale from Wissmath et al. (2009) measured on a 7-point Likert scale ranging from not at all to very much. The item was "How much did you enjoy the story?". Due to this being a one-item scale, reliability was not calculated.

2.4.6 Narrative understanding
Narrative understanding was measured with an adapted 7-item scale from Appel et al. (2002) and Buselle and Bilandzic (2009) on 7-point Likert scales ranging from completely disagree to completely agree. An example of an item is "I understood why things happened the way they did". The reliability of ‘Narrative understanding' comprising seven items was good for the 2013 video (α = .87) and acceptable for the 2014 video (α = .78).

2.4.7 Story-consistent beliefs
Story-consistent beliefs were measured with a 4-item scale developed by the researcher related to the key elements specific to the two advertisements used in this study measured on 7-point Likert scales ranging from not at all to very much. An example of an item is "I value friendship". The reliability of ‘Story-consistent beliefs' comprising four items was weak (2013 video, α = .61); (2014 video α = .64); (control-group α = .61). Due to the weak alpha's, the inter-item correlation means were calculated and the scale was deemed acceptable because the means were between .2 and .4 (.252 for the 2013 video; .269 for the 2014 video; .251 for the control group) (cf. Briggs & Cheek, 1986).

2.4.8 Familiarity
A 1-item scale with the question: "I had seen this film prior to taking part in this experiment", with a yes or no option, was used to enquire about the familiarity with the visual narrative. Due to this being a one-item scale, reliability was not calculated.

2.5 Procedure
The participants were personally approached and asked to join the experiment at the Radboud University with the promise of cookies and a chance to win money. When they agreed to participate, they were led to a classroom with computers that had a similar screen-size. The reason for this is that Wissmath et al. (2009) found that the
level of presence is determined by media characteristics including the size of the screen on which the film is viewed. Research by Lombard et al. (2000) suggests that the larger the screen size, the higher the chance of spatial presence occurring. Therefore it was deemed to be of importance to ensure that the screen size was the same for all the participants. The participants were then instructed to sit in front of one of the computers and follow the instructions provided within the questionnaire on the screen. First, a video was shown with either the 2013 or 2014 advertisement in one of the language conditions. After that video, the participant was provided with a list of questions measuring story consistent beliefs. Thereafter, the participant was asked to indicate whether the main character was either the boy or penguin or the bear or hare (depending on which video was displayed first). This led to the identification questions displayed based on their choice. The next sets of questions were for the transportation, spatial presence, flow, enjoyment, narrative understanding and familiarity scales. After the questions had been answered, the other advertisement was shown in the same language condition and was again followed by the same set of questions. Each participant therefore saw two videos (counterbalancing was applied) in the same language condition. At the end of that part of the questionnaire, after having watched both videos, the participants were asked to self-assess their proficiency in English and Dutch and answer demographic background questions. Taking part in the experiment took on average 15 minutes.

2.6 Statistical treatment
All analyses were conducted with SPSS 21.0. Several one-way ANOVAs were performed to compare the means of the dependent variables: Story-consistent beliefs, transportation, spatial presence, flow, narrative understanding, and enjoyment, with the factor: Language strategy (Dutch voice-over, English voice-over, English voice-over with Dutch subtitles, No voice-over of subtitles). If the differences were significant, a post hoc Bonferroni test was conducted to establish where the difference was significant. Non-parametric Kruskal-Wallis tests were used for identification due to the groups being unequal. Linear regression analyses were run to establish whether English language proficiency and Narrative understanding were predictors for the dependent variables. One-sample t-tests were run to establish whether the means of the dependent variables were higher than average (based on the midpoint of the scale).
3. Results
In this section the results of this experiment will be discussed per dependent variable.

3.1 Story-consistent beliefs
Table 1 shows the means and SDs of a one-way analysis of variance for Story-consistent beliefs as a function of language strategy.

Table 1. Story-consistent beliefs as a function of language strategy (Dutch voice-over, English voice-over, English voice-over with Dutch subtitles, No audio or subtitles, No video) (1 = low agreement with story-consistent beliefs, 7 = high agreement with story-consistent beliefs).

<table>
<thead>
<tr>
<th></th>
<th>Story-consistent beliefs</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>n</td>
</tr>
<tr>
<td>Dutch voice-over (v-o)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>6.37</td>
<td>0.54</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>6.39</td>
<td>0.63</td>
<td>30</td>
</tr>
<tr>
<td>English voice-over (v-o)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>6.03</td>
<td>0.67</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>6.03</td>
<td>0.63</td>
<td>30</td>
</tr>
<tr>
<td>Subtitled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>6.03</td>
<td>0.61</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>6.07</td>
<td>0.72</td>
<td>30</td>
</tr>
<tr>
<td>No Audio</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>6.35</td>
<td>0.53</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>6.42</td>
<td>0.45</td>
<td>30</td>
</tr>
<tr>
<td>Control condition Beliefs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>6.14</td>
<td>0.60</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>6.14</td>
<td>0.60</td>
<td>30</td>
</tr>
</tbody>
</table>

A one-way analysis of variance showed no significant effect of Language strategy on Story-consistent beliefs \(F(4, 145) = 2.35, p = .057\) in the 2013 video. A second one-way analysis of variance, for the 2014 video, showed a significant effect of Language strategy on Story-consistent beliefs \(F(4, 145) = 2.89, p = .024\). However, a
Bonferroni pairwise comparisons test did not show significant differences among the Language strategies.

Two one-sample t-tests were conducted for Story-consistent beliefs to evaluate whether the mean was significantly different from the neutral midpoint of the scale (4) for the 2013 and 2014 video. The sample mean of the 2013 video (6.19; SD = 0.61) was significantly higher than 4 ($t(119) = 39.70, p < .001$). The effect size $d$ of 3.95 indicates a large effect. The sample mean of the 2014 video (6.23; SD = 0.60) was significantly higher than 4 ($t(119) = 40.34, p < .001$). The effect size $d$ of 3.72 indicates a large effect. The results support the conclusion that viewers of both the 2013 and 2014 advertisements showed higher than average levels of Story-consistent beliefs.
3.2 Identification

The respondents had a choice (per video) to indicate which character they identified with the most, and as a result the questions related to 'identification' were asked based on their choice. Table 2 shows the means and SDs for identification as a factor of language strategy.

Table 2. Identification as a function of Language Strategy (Dutch voice-over, English voice-over, English voice-over with Dutch subtitles, No audio or subtitles). (1 = low level of identification, 7 = high level of identification).

<table>
<thead>
<tr>
<th></th>
<th>Identification</th>
<th>Identification</th>
<th>Identification</th>
<th>Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>n</td>
<td>M</td>
</tr>
<tr>
<td>Dutch v-o</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>2.60</td>
<td>0.89</td>
<td>3</td>
<td>3.60</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>2.98</td>
<td>0.71</td>
<td>7</td>
<td>3.69</td>
</tr>
<tr>
<td>English v-o</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>2.72</td>
<td>1.37</td>
<td>6</td>
<td>4.24</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>4.07</td>
<td>1.50</td>
<td>17</td>
<td>3.36</td>
</tr>
<tr>
<td>Subtitled</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>4.26</td>
<td>1.60</td>
<td>5</td>
<td>3.78</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>3.56</td>
<td>1.33</td>
<td>12</td>
<td>3.81</td>
</tr>
<tr>
<td>No Audio</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>3.30</td>
<td>1.47</td>
<td>4</td>
<td>4.49</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>3.58</td>
<td>0.63</td>
<td>8</td>
<td>4.30</td>
</tr>
</tbody>
</table>

Due to the groups being unequal, non-parametric Kruskal-Wallis tests were conducted. A Kruskal-Wallis H test showed that there was no statistically significant difference in identification with the bear between language strategies, $\chi^2(3) = 2.95, p = .400$.

A Kruskal-Wallis H test showed that there was a statistically significant difference in identification with the hare between language strategies, $\chi^2(3) = 11.24, p = .010$, with a mean rank identification score of 41.39 for the Dutch voice-over, 57.69 for the English voice-over, 43.02 for the English voice-over with Dutch subtitles, and 64.44
for the control condition without voice-over and subtitles.

A Kruskal-Wallis H test showed that there was no statistically significant difference in identification with the *boy* between language strategies, $\chi^2(3) = 4.38, p = .223$.

A Kruskal-Wallis H test showed that there was no statistically significant difference in identification with the *penguin* between language strategies, $\chi^2(3) = 4.53, p = .209$.

Four one-sample t-tests were conducted for Identification to evaluate whether the mean was significantly different from the neutral midpoint of the scale (4) for the 2013 and 2014 video. The sample mean of the identification with the *bear* in the 2013 video (3.26; $SD = 1.45$) was significantly lower than 4 ($t(17) = 2.18, p = .044$). The effect size $d$ of -.51 indicates a medium negative effect. The sample mean of the identification with the *hare* in the 2013 video (4.02; $SD = 1.23$) was not significantly different from 4 ($t(101) < 1$). The sample mean of the identification with the *boy* in the 2014 video (3.67; $SD = 1.25$) was not significantly different from 4 ($t(43) = 1.75, p = .087$). The sample mean of the identification with the *penguin* in the 2014 video (3.84; $SD = 1.28$) was not significantly different from 4 ($t(75) = 1.09, p = .279$). The results support the conclusion that only the viewers of the 2013 video who identified with the bear showed lower than average levels of identification.
3.3 Transportation

Table 3 shows the means and SDs for Transportation as a function of language strategy.

Table 3. Transportation as a function of Language Strategy (Dutch voice-over, English voice-over, English voice-over with Dutch subtitles, No audio or subtitles). (1 = low level of transportation, 7 = high level of transportation).

<table>
<thead>
<tr>
<th>Language Strategy</th>
<th>2013 video</th>
<th>2014 video</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dutch v-o</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>4.26</td>
<td>4.45</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>4.45</td>
<td>4.49</td>
<td>30</td>
</tr>
<tr>
<td>English v-o</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>4.27</td>
<td>4.26</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>4.26</td>
<td>4.49</td>
<td>30</td>
</tr>
<tr>
<td>Subtitled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>4.29</td>
<td>4.49</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>4.49</td>
<td>4.88</td>
<td>30</td>
</tr>
<tr>
<td>No Audio</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>4.49</td>
<td>4.88</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>4.88</td>
<td>4.88</td>
<td>30</td>
</tr>
</tbody>
</table>

A one-way analysis of variance showed no significant effect of Language strategy on Transportation ($F(3, 116) < 1$) in the 2013 video. A second one-way analysis of variance, for the 2014 video, showed no significant effect of Language strategy on Transportation either ($F(3, 116) = 2.68, p = .050$).

Two one-sample t-tests were conducted for Transportation to evaluate whether the mean was significantly different from the neutral midpoint of the scale (4) for the 2013 and 2014 video. The sample mean of the 2013 video ($4.33; SD = 0.92$) was significantly higher than 4 ($t(119) = 3.91, p < .001$). The effect size $d$ of .36 indicates a small effect. The sample mean of the 2014 video ($4.52; SD = 0.88$) was significantly higher than 4 ($t(119) = 6.42, p < .001$). The effect size $d$ of .59 indicates a medium
effect. The results support the conclusion that viewers of both the 2013 and 2014 videos showed higher than average levels of transportation.

### 3.4 Spatial presence

Table 4 shows the means and SDs for Spatial presence as a function of language strategy.

<table>
<thead>
<tr>
<th>Language Strategy</th>
<th>2013 video</th>
<th>2014 video</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dutch v-o</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>3.71</td>
<td>3.88</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>3.88</td>
<td>3.88</td>
<td>30</td>
</tr>
<tr>
<td>English v-o</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>3.94</td>
<td>3.75</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>3.75</td>
<td>3.75</td>
<td>30</td>
</tr>
<tr>
<td>Subtitled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>3.85</td>
<td>3.85</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>3.83</td>
<td>3.83</td>
<td>30</td>
</tr>
<tr>
<td>No Audio</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>4.19</td>
<td>4.33</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>4.33</td>
<td>4.33</td>
<td>30</td>
</tr>
</tbody>
</table>

A one-way analysis of variance showed no significant effect of Language strategy on Spatial presence \((F(3, 116) <1)\) in the 2013 video. A second one-way analysis of variance, for the 2014 video, also showed no significant effect of Language strategy on Spatial presence \((F(3, 116) = 1.12, p = .345)\).

Two one-sample t-tests were conducted for Spatial presence to evaluate whether the mean was significantly different from the neutral midpoint of the scale (4) for the 2013 and 2014 video. The sample mean of the 2013 video (3.92; \(SD = 1.26\)) was not
significantly different from 4 ($t(119) < 1$). The sample mean of the 2014 video (3.94; $SD = 1.34$) was also not significantly different from 4 ($t(119) < 1$). The results support the conclusion that viewers of both the 2013 and 2014 advertisements showed average levels of Spatial presence.

### 3.5 Flow

Table 5 shows the means and SDs for Flow as a function of language strategy.

<table>
<thead>
<tr>
<th>Language Strategy</th>
<th>Flow (1 = low level of flow, 7 = high level of flow)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
</tr>
<tr>
<td>Dutch v-o</td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>5.12</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>5.56</td>
</tr>
<tr>
<td>English v-o</td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>5.30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>5.28</td>
</tr>
<tr>
<td>Subtitled</td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>4.93</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>5.30</td>
</tr>
<tr>
<td>No Audio</td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>5.28</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>5.42</td>
</tr>
</tbody>
</table>

A one-way analysis of variance showed no significant effect of Language strategy on Flow ($F(3, 116) < 1$) in the 2013 video. A second one-way analysis of variance, for the 2014 video, showed no significant effect of Language strategy on Flow either ($F(3, 116) < 1$).

Two one-sample t-tests were conducted for Flow to evaluate whether the mean was significantly different from the neutral midpoint of the scale (4) for the 2013 and 2014 video. The sample mean of the 2013 video (5.16; $SD = 1.53$) was significantly higher
than 4 \((t (119) = 8.29, p < .001)\). The effect size \(d\) of .76 indicates a large effect. The sample mean of the 2014 video \((5.39; SD = 1.43)\) was also significantly higher than 4 \((t (119) = 10.61, p < .001)\). The effect size \(d\) of .97 indicates a large effect. The results support the conclusion that viewers of both the 2013 and 2014 advertisements showed higher than average levels of Flow.

3.6 Enjoyment

Table 6 shows the means and SDs for Enjoyment as a function of language strategy.

<table>
<thead>
<tr>
<th>Language Strategy</th>
<th>Enjoyment (M)</th>
<th>SD</th>
<th>(n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dutch v-o</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>4.80</td>
<td>1.49</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>5.30</td>
<td>1.26</td>
<td>30</td>
</tr>
<tr>
<td>English v-o</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>5.13</td>
<td>1.00</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>5.33</td>
<td>1.03</td>
<td>30</td>
</tr>
<tr>
<td>Subtitled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>5.03</td>
<td>1.29</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>5.40</td>
<td>1.22</td>
<td>30</td>
</tr>
<tr>
<td>No Audio</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td>5.30</td>
<td>1.11</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td>5.77</td>
<td>1.25</td>
<td>30</td>
</tr>
</tbody>
</table>

A one-way analysis of variance showed no significant effect of Language strategy on Enjoyment \((F (3, 116) < 1)\) in the 2013 video. A second one-way analysis of variance, for the 2014 video, also showed no significant effect of Language strategy on Enjoyment \((F (3, 116) < 1)\).

Two one-sample t-tests were conducted for Enjoyment to evaluate whether the mean was significantly different from the neutral midpoint of the scale (4) for the 2013 and
The sample mean of the 2013 video (5.07; SD = 1.24) was significantly higher than 4 (t (119) = 9.41, p < .001). The effect size d of .86 indicates a large effect. The sample mean of the 2014 video (5.45; SD = 1.19) was also significantly higher than 4 (t (119) = 13.30, p < .001). The effect size d of 1.22 indicates a large effect. The results support the conclusion that viewers of both the 2013 and 2014 advertisements showed higher than average levels of Enjoyment.

3.7 Narrative understanding

Table 7 shows the means and SDs for Narrative understanding as a function of language strategy.

Table 7. Narrative understanding as a function of Language Strategy (Dutch voice-over, English voice-over, English voice-over with Dutch subtitles, No audio or subtitles). (1 = low level of narrative understanding, 7 = high level of narrative understanding).

<table>
<thead>
<tr>
<th>Language Strategy</th>
<th>Narrative understanding</th>
<th>M</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dutch v-o</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td></td>
<td>5.76</td>
<td>0.91</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td></td>
<td>6.13</td>
<td>0.67</td>
<td>30</td>
</tr>
<tr>
<td>English v-o</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td></td>
<td>5.85</td>
<td>1.01</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td></td>
<td>5.97</td>
<td>0.79</td>
<td>30</td>
</tr>
<tr>
<td>Subtitled</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td></td>
<td>5.93</td>
<td>0.59</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td></td>
<td>6.02</td>
<td>0.67</td>
<td>30</td>
</tr>
<tr>
<td>No Audio</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2013 video</td>
<td></td>
<td>5.26</td>
<td>1.31</td>
<td>30</td>
</tr>
<tr>
<td>- 2014 video</td>
<td></td>
<td>5.73</td>
<td>0.89</td>
<td>30</td>
</tr>
</tbody>
</table>

A one-way analysis of variance showed a significant effect of Language strategy on Narrative understanding (F (3, 116) = 2.85, p = .041) in the 2013 video. However, a Bonferroni pairwise comparisons test did not show significant differences among the Language strategies. A second one-way analysis of variance, for the 2014 video,
showed no significant effect of Language strategy on Narrative understanding \((F(3, 116) = 1.49, p = .222)\).

Two one-sample t-tests were conducted for Narrative understanding to evaluate whether the mean was significantly different from the neutral midpoint of the scale (4) for the 2013 and 2014 video. The sample mean of the 2013 video \((5.70; SD = 1.01)\) was significantly higher than 4 \((t(119) = 18.45, p < .001)\). The effect size \(d\) of 1.68 indicates a large effect. The sample mean of the 2014 video \((5.96; SD = 0.76)\) was also significantly higher than 4 \((t(119) = 28.29, p < .001)\). The effect size \(d\) of 2.58 indicates a large effect. The results support the conclusion that viewers of both the 2013 and 2014 advertisements showed higher than average levels of Narrative understanding.

3.8 Language proficiency as a predictor
To test whether the proficiency level in the L2 (English) of the participants predicted the levels of story-consistent beliefs, identification, transportation, flow, enjoyment, and narrative understanding, regression analyses were conducted for both the English and English with Dutch subtitles versions of the materials. It was decided to only test the L2 (English) as a predictor because the participants were Dutch natives and all indicated to have a near perfect level of Dutch proficiency \((M = 6.59, SD = 0.51)\) therefore Dutch language proficiency was not expected to create a variation in the language conditions.

The regression analyses, conducted to measure whether English language proficiency predicted the levels of story-consistent beliefs, identification, transportation, spatial presence, flow, enjoyment, and narrative understanding, yielded no significant results. As a result, it was therefore decided (and for the sake of readability) to leave those results out of the main part of this thesis. The \(F\) values for these regressions analyses can be found in a table in Appendix 4.

3.9 Narrative understanding as a predictor
In order to find out whether Narrative understanding was a predictor for Story-consistent beliefs, Identification, Transportation, Spatial presence, Flow, and Enjoyment, regression analyses were conducted for both the 2013 and 2014 version of
the materials. First the results for the 2013 video are shown in Table 8 and reported, and then for the 2014 version (Table 9).
Table 8. Regression analyses results for narrative understanding as a predictor for Story-consistent beliefs, Identification, Transportation, Spatial Presence, Flow, and Enjoyment in the 2013 video. n = 120.

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Story-consistent beliefs</td>
<td>0.06</td>
<td>.06</td>
<td>.09</td>
</tr>
<tr>
<td>Adjusted R2</td>
<td>.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>1.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identification Bear (n = 18)</td>
<td>0.31</td>
<td>.30</td>
<td>.25</td>
</tr>
<tr>
<td>Adjusted R2</td>
<td>.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>1.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identification Hare (n = 102)</td>
<td>0.20</td>
<td>.12</td>
<td>.16</td>
</tr>
<tr>
<td>Adjusted R2</td>
<td>.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>2.64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation</td>
<td>0.39</td>
<td>.08</td>
<td>.43***</td>
</tr>
<tr>
<td>Adjusted R2</td>
<td>.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>26.38***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spatial Presence</td>
<td>0.31</td>
<td>.11</td>
<td>.25**</td>
</tr>
<tr>
<td>Adjusted R2</td>
<td>.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>7.88**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flow</td>
<td>0.89</td>
<td>.11</td>
<td>.59***</td>
</tr>
<tr>
<td>Adjusted R2</td>
<td>.34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>62.11***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enjoyment</td>
<td>0.47</td>
<td>.11</td>
<td>.38***</td>
</tr>
<tr>
<td>Adjusted R2</td>
<td>.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>20.28***</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** p < .01, *** p < .001
3.9.1 Story-consistent beliefs
A linear regression analysis showed that the variable Narrative Understanding entered could not significantly explain any variance in Story-consistent beliefs since the model was not significant ($F (1,118) = 1.06, p = .306$).

3.9.2 Identification with the Bear
A linear regression analysis showed that the variable Narrative Understanding entered could not significantly explain any variance in Identification with the Bear since the model was not significant ($F (1,16) = 1.04, p = .323$).

3.9.3 Identification with the Hare
A linear regression analysis showed that the variable Narrative Understanding entered could not significantly explain any variance in Identification with the Hare since the model was not significant ($F (1,100) = 2.64, p = .108$).

3.9.4 Transportation
A linear regression analysis showed that the variable Narrative Understanding entered in the model explained 17.6% of the variance (adjusted $R^2$) for Transportation ($F (1,118) = 26.38, p < .001$). Narrative Understanding was shown to be a significant predictor of Transportation ($B = .39, p < .001$). This means that when the Narrative Understanding score goes up 1 point on the Likert scale, the level of Transportation goes up with .39.

3.9.5 Spatial Presence
A linear regression analysis showed that the variable Narrative Understanding entered in the model explained 5.5% of the variance (adjusted $R^2$) for Spatial Presence ($F (1,118) = 7.88, p = .006$). Narrative Understanding was shown to be a significant predictor of Spatial presence ($B = .31, p = .006$). This means that when the Narrative Understanding score goes up 1 point on the Likert scale, the level of Spatial presence goes up with .31.

3.9.6 Flow
A linear regression analysis showed that the variable Narrative Understanding entered in the model explained 33.9% of the variance (adjusted $R^2$) for Flow ($F (1,118) =$
62.11, \( p < .001 \). Narrative Understanding was shown to be a significant predictor of Flow (\( B = .89, p < .001 \)). This means that when the Narrative Understanding score goes up 1 point on the Likert scale, the level of Flow goes up with .89.

3.9.7 Enjoyment

A linear regression analysis showed that the variable Narrative Understanding entered could not significantly explain any variance in Enjoyment since the model was not significant (\( F (1,118) = 1.92, p = .168 \)).

Table 9 shows the results of linear regression analyses that were run to establish whether narrative understanding was a predictor for story-consistent beliefs, identification, transportation, spatial presence, flow, and enjoyment for the 2014 video.
Table 9. Regression analyses results for narrative understanding as a predictor for Story-consistent beliefs, Identification, Transportation, Spatial Presence, Flow, and Enjoyment in the 2014 video. \( n = 120 \).

<table>
<thead>
<tr>
<th>Variable</th>
<th>( B )</th>
<th>SE ( B )</th>
<th>( \beta )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Story-consistent beliefs</td>
<td>0.03</td>
<td>.07</td>
<td>.04</td>
</tr>
<tr>
<td>( F )</td>
<td></td>
<td></td>
<td>0.18</td>
</tr>
<tr>
<td>Identification Boy (( n = 44 ))</td>
<td>0.13</td>
<td>.24</td>
<td>.08</td>
</tr>
<tr>
<td>( F )</td>
<td></td>
<td></td>
<td>0.28</td>
</tr>
<tr>
<td>Identification Penguin (( n = 76 ))</td>
<td>0.14</td>
<td>.20</td>
<td>.08</td>
</tr>
<tr>
<td>( F )</td>
<td></td>
<td></td>
<td>0.64</td>
</tr>
<tr>
<td>Transportation</td>
<td>0.21</td>
<td>.11</td>
<td>.18*</td>
</tr>
<tr>
<td>( F )</td>
<td></td>
<td></td>
<td>4.12*</td>
</tr>
<tr>
<td>Spatial Presence</td>
<td>0.25</td>
<td>.16</td>
<td>.14</td>
</tr>
<tr>
<td>( F )</td>
<td></td>
<td></td>
<td>2.32</td>
</tr>
<tr>
<td>Flow</td>
<td>1.01</td>
<td>.15</td>
<td>.53***</td>
</tr>
<tr>
<td>( F )</td>
<td></td>
<td></td>
<td>46.87***</td>
</tr>
<tr>
<td>Enjoyment</td>
<td>0.52</td>
<td>.14</td>
<td>.33***</td>
</tr>
<tr>
<td>( F )</td>
<td></td>
<td></td>
<td>14.52***</td>
</tr>
</tbody>
</table>

* \( p < .05 \), ** \( p < .01 \), *** \( p < .001 \)
3.9.8 **Story-consistent beliefs**
A linear regression analysis showed that the variable Narrative Understanding entered could not significantly explain any variance in Story-consistent beliefs since the model was not significant \( F(1, 118) < 1 \).

3.9.9 **Identification with the Boy**
A linear regression analysis showed that the variable Narrative Understanding entered could not significantly explain any variance in Identification with the Boy since the model was not significant \( F(1, 42) < 1 \).

3.9.10 **Identification with the Penguin**
A linear regression analysis showed that the variable Narrative Understanding entered could not significantly explain any variance in Identification with the Penguin since the model was not significant \( F(1, 74) < 1 \).

3.9.11 **Transportation**
A linear regression analysis showed that the variable Narrative Understanding entered in the model explained 2.6% of the variance (adjusted R\(^2\)) for Transportation \( F(1, 118) = 4.12, p = .045 \). Narrative Understanding was shown to be a significant predictor of Transportation \( B = .21, p = .045 \). This means that when the Narrative Understanding score goes up 1 point on the Likert scale, the level of Transportation goes up with .21.

3.9.12 **Spatial presence**
A linear regression analysis showed that the variable Narrative Understanding entered could not significantly explain any variance in Spatial presence since the model was not significant \( F(1, 118) = 2.32, p = .130 \).

3.9.13 **Flow**
A linear regression analysis showed that the variable Narrative Understanding entered in the model explained 27.8% of the variance (adjusted R\(^2\)) for Flow \( F(1, 118) = 46.87, p < .001 \). Narrative Understanding was shown to be a significant predictor of Flow \( B = 1.01, p < .001 \). This means that when the Narrative Understanding score goes up 1 point on the Likert scale, the level of Flow goes up with 1.01.
3.9.14 Enjoyment

A linear regression analysis showed that the variable Narrative Understanding entered could not significantly explain any variance in Enjoyment since the model was not significant ($F(1,118) = 2.29, p = .133$).

4. Discussion

The aim of this study was to find out to what extent L1 voice-overs, L2 voice-overs, and L2 voice-overs with L1 subtitles influence the level of identification, transportation, spatial presence, flow, enjoyment, narrative understanding, and story-consistent beliefs in a non-overtly persuasive visual narrative when viewed by Dutch nationals. The results of the current study indicate that the language strategies are all equally effective; the use of different language strategies had no influence on the above-mentioned variables. Two significant differences were found between language strategies; one in story-consistent beliefs for the 2013 video, and one in narrative understanding for the 2014 video. These differences, however, did not reach significance in the post hoc analyses and were therefore disregarded as such.

The study by Wissmath et al. (2009) is the study most closely linked to the current study. They researched the influence of three language strategies (dubbing, subtitling, and dubbing with foreign subtitles) on Transportation, Spatial presence, Flow, and Enjoyment amongst Swiss university students who indicated German to be their native language. Their study showed that there were no significant differences between the language strategies dubbing and subtitling, in their influence on Transportation, Spatial presence, and Flow. These findings are in line with the findings of the current study.

Wissmath et al. (2009) suggest that the reason for the non-significant differences between dubbing and subtitling might be due to the original soundtrack remaining intact, and as a result participants find subtitles to interfere less with the reception. The results of the current study cannot be explained similarly because in the current study, voice-overs were used instead of dubbing. This was done specifically to eliminate the chance of finding preferences for the original soundtrack due to imperfect lip-synchronization.

A second possible explanation given by Wissmath et al. (2009) for not finding significant differences between dubbing and subtitling is more applicable to the current study namely; the level of exposure to the different strategies throughout the
lives of the participants. An assumption that Wissmath et al. (2009) make is that due to the frequent use of both dubbing and subtitling by Swiss television and cinemas people become more tolerant to possible drawbacks of both strategies. The Dutch participants in the current study have had similar exposure, especially in their younger years. Dubbing is used for most of the television programmes/films for children, although sporadically subtitling is also used. English programmes/films targeted at adults always make use of subtitles.

In addition to the explanations given by Wissmath et al. (2009) for the lack of significant differences between dubbing and subtitling, a third explanation could be found in the language proficiency levels of the Dutch (higher educated) students. The Dutch participants indicated that they had a high proficiency in the English language. This is in line with findings for the Dutch people by Education First who, on a yearly basis, measure the level of English proficiency in numerous countries with their EF English Proficiency Index. The Netherlands is currently ranked second on that list (Education First, 2015). In their Revised Hierarchical Model, Dufour and Kroll (1995) suggest that when fluency in a second language increases, the brain's ability to process information in an L2, of which translating is a part, also increases. The reason they provide is that fluent bilingual speakers seem to have a greater conceptual and lexical link that enables the brain to process the information in a more comprehensive and faster manner than less fluent bilingual speakers. Although there was a significant difference in the current study between the Dutch and English proficiency levels, the participants were found to be highly proficient in both languages. This high proficiency in an L2 (English), based on the theory of the Revised Hierarchical Model, provides an argument in favour for the finding of non-significant differences between language strategies in the current study; the high L2 proficiency of the Dutch speakers enabled them to process the information faster and more comprehensive. The lack of significant findings in the regression analyses with language proficiency as a predictor for the level of identification, spatial presence, flow, enjoyment, narrative understanding, and story-consistent beliefs corroborate this statement. The second language fluency of the participants was so high that it did not significantly impact the dependent variables in the L2 (English voice-over and English with Dutch subtitles) conditions.

In addition to the predictive abilities of language proficiency, the extent to which narrative understanding acted as a predictor for the level of identification, spatial
presence, flow, enjoyment, and story-consistent beliefs was also measured. The findings of the current study indicate that narrative understanding was a predictor for both transportation and flow. With only one of the videos (2013), it also predicted the level of spatial presence. In other words, the higher the level of narrative understanding, the higher the levels of transportation and flow. This is again in line with the theory of the Revised Hierarchical Model (Dufour and Kroll (1995); the higher the level of language proficiency, the faster the ability to receive and process information on the conceptual and lexical level.

The participants did show high levels of transportation, and flow, but the levels did not significantly differ between language strategies. This finding does indicate that transportation and flow do take place in non-overtly persuasive narratives; they just do not vary between language strategies. Low levels of spatial presence indicated that the participants were not feeling as if they were located in the story. A possible explanation could be that this is due to the fable-like characteristics of the narratives used. Perhaps it would be easier for children to picture themselves in an animated world. The current study, however, indicates that young adults seem to find this difficult. A second explanation could be the fact that the narrative only lasted three minutes and there was therefore insufficient time for the participants to place themselves in the story. A third explanation could be that there was too much emphasis for the participants on the fact that this was an experiment. The experiment was set in a classroom where participants were walking in and out, and with the researcher present and telling them what to do. These three reasons could have contributed to the low levels of spatial presence.

In concurrence with the findings in the study by Wissmath et al. (2009), the level of enjoyment was not significantly affected by language strategy. The narratives were enjoyed in all language strategies. Previous research by Hornikx and Starren (2006) and Hornikx et al. (2010) indicates that the difficulty of the text influences the enjoyment of an advertisement. If the text in a second language is too difficult it is enjoyed less. The levels of narrative understanding in the current study were above average. Together with the positive levels of enjoyment, it seems that the texts were not too difficult for the participants to understand. Although the current study did not measure the effect of different levels of difficulty of narratives, the lack of influence of language strategy on enjoyment might again be contributed to the high second language fluency in both English and Dutch of the participants. A suggestion for
future research would be to manipulate the difficulties of the texts (simple, medium, hard), or to replicate the current study amongst people with lower English language proficiency such as children or French natives (listed at number 29 on the EF Proficiency Index). Although it is often thought that subtitling interferes negatively with the viewer's enjoyment of the content of the film by drawing the attention away from the centre of the screen (Wissmath et al. 2009), both the current study and Wissmath et al. (2009) found this to not be the case.

It should be noted that Wissmath et al. (2009) did find significant differences between the dubbed and dubbed with foreign subtitles conditions in transportation, flow, spatial presence. These levels decreased in the dubbed with foreign subtitles condition. The latter condition was, however, not used in the current study because it is a strategy never used in the Netherlands.

In a similar way to the study by Slater et al. (2006) and the study by Beentjes et al. (2009), the current study set out to research whether a visual narrative could influence the beliefs of a person. Slater et al. (2006) found that watching an episode of Law & Order could influence the beliefs of the viewer. The study by Beentjes et al. (2009) contradicted those findings and found no significant differences in the opinions of the viewer. The current study showed that watching a video, irrespective of language conditions, did not lead to a difference in story-consistent beliefs as compared with not watching a video (the no-video condition). The language strategies were found to not significantly impact the beliefs of the viewer. Therefore, this outcome of the current study supports the findings by Beentjes et al. (2009). The extent to which the participants agreed with the story-consistent beliefs was quite high. A possible explanation could be that the beliefs, about for instance friendship and Christmas, introduced by the characters in the narrative were already widely present within the participants and therefore a ceiling effect occurred. Future research could focus on visual narratives with beliefs that are naturally more distant to the viewer. Green and Brock (2000) for instance, used a narrative about the stabbing of a little girl by a psychiatric patient and measured with statements about the freedoms of psychiatric patients and the likelihood of attacks in public places.

De Graaf et al. (2012) stated that identification with the character in a narrative is an important factor for changing the beliefs of the viewer. The materials used in the current study had two characters in each film and therefore the participants first had to indicate with whom they identified the most, and were then presented with the
identification scale items accordingly. This was done to make sure that the identification questions were asked only about the character the participants identified with most. The results for the 2013 film were quite uniform as most participants indicated that they identified with one of the two characters (the hare). The 2014 film showed a little more diversity in the choice, though most people identified with the penguin. The levels of identification were not very high for all four characters. This could be due the fact that in the 2013 video two characters were anthropomorphized animals, and in the 2014 video an anthropomorphized animal character interacted with a human character. Although the current study did not set out to specifically investigate fable-like narratives, the fable-like nature of the narratives might be an explanation for the identification results. Cho et al. (2012) mention that for emotional involvement (transportation) and identification to take place, the narrative needs to be perceived as real. The fable-like content of the materials in the current study was perhaps too far removed from what could be perceived as real and thus influenced the levels of identification.

4.2 Conclusion and suggestions for further research

The foundation of this study was based on the research by Wissmath et al. (2009) in which they researched the effects of dubbing and subtitling on transportation, spatial presence, flow, and enjoyment. In the current study, identification and narrative understanding were added, and voice-overs were used instead of dubbing. This was done to investigate the effect of language strategies on story-consistent beliefs, identification, transportation, spatial presence, flow, enjoyment, and narrative understanding in the context of non-overtly persuasive visual narratives. The results show that the strategies are equally effective with non-overtly persuasive visual narratives when viewed by highly educated Dutch students. The level of understanding of the narrative was found predict the level of Transportation and Flow. This suggests that the level of comprehension of the narrative plays an important role in experiencing the narrative. It was beyond the scope of this study, but perhaps for future research it could be interesting to replicate this study amongst children due to their lower level of second language proficiency, or people from countries that are less fluent in English such as France (listed at number 29 on the EF Proficiency Index). Another suggestion for further research is to change the difficulty of the spoken texts to easy, medium, and hard, as done with advertising slogans in Hornikx.
and Starren (2006) and Hornikx et al. (2010), and add it as another factor to the research in order to shed a light on how the change in text difficulty influences the dependent variables.

4.3 Limitations
Firstly, participants were taken into a classroom for the experiment, where the researcher was present, as well as other participants; because of this emphasis on an experimental setting, external validity might be compromised as advertisements are usually watched at home. There was however no alternative to the experimental setting that was within the means of the researcher to provide. A second limitation was that it was unfortunately not within the means of the researcher to provide the participants with a bigger screen to view the videos on. Previous research by Lombard et al. (2000) indicated that, the larger the size of the screen the higher the levels of for instance Transportation. Ideally it would have been the size of an average television or even a cinema screen. It was assured however that the screen-size was kept equal for all participants. Thirdly, the Dutch participants indicated that they had a relatively high level of English language proficiency. This might have contributed to finding no significant differences between the language strategies.

4.4 Contribution to theory
Previous research by Wissmath et al. (2009) into the effects of dubbing and subtitling with Swiss natives showed that both language strategies were considered equally effective in influencing the levels of transportation, spatial presence, flow, and enjoyment. The current study researched voice-overs (L1 and L2), and subtitling and their influence on identification, transportation, spatial presence, flow, enjoyment, narrative understanding, and story-consistent beliefs in an experimental study centred around non-overtly persuasive visual narratives, to find out to what extent language choice and language strategies influences these concepts. It was found, in line with the outcomes of the research by Wissmath et al. (2009), that the use of different language strategies for highly educated Dutch natives do not influence the levels of identification, transportation, spatial presence, flow, enjoyment, narrative understanding, and story-consistent beliefs differently.

Something that had not been previously researched is the influence of narrative understanding on identification, transportation, spatial presence, flow, enjoyment, and
story-consistent beliefs. The current study also shows that the level of narrative understanding directly influences the levels of transportation and flow. The better the narrative is understood the higher the levels of transportation and flow.

4.5 Practical implications

The current study shows that advertising agencies and makers of short films may not have to use a voice-over in the native language of the viewer or subtitles in the native language of the viewer because an original L2 (English) soundtrack has the same impact on the level of identification, transportation, flow, spatial presence, enjoyment, narrative understanding, and story-consistent beliefs amongst highly educated Dutch people. Besides the advantage in terms of costs for not having to adapt the language of an advertisement, the current study also shows that high levels of transportation and flow can be experienced when watching short, non-overtly persuasive, visual narratives. This is especially relevant to the advertisement sector, as the level of transportation has been shown to affect real-world beliefs (Beentjes et al., 2009; Cho et al., 2012; Green and Brock, 2000). Although no differences in story-consistent beliefs were found among the various language conditions in the current study.
References


Appendix 1: Questionnaire

Story-consistent beliefs:
- Ik hecht waarde aan vriendschap
- Ik mis een speciaal iemand in mijn leven
- Ik zou vaker aardige dingen voor mensen moeten doen

Kerstmis gaat voor mij over:
- cadeautjes
- familie
- iets aardigs voor iemand doen

- Familie is voor mij belangrijk
- Samenzijn is voor mij belangrijk
- Vriendschap is voor mij belangrijk

Identification
- Ik voelde mee met (de hoofdpersoon)
- Ik heb meegeleefd met (de hoofdpersoon)
- Tijdens het kijken voelde ik me verdrietig als (de hoofdpersoon) zich verdrietig voelde
- Tijdens het kijken stelde ik me voor hoe het zou zijn om in de positie van (de hoofdpersoon) te zijn
- Ik heb me ingeleefd in (de hoofdpersoon)
- Terwijl ik aan het kijken was, beeldde ik me in hoe het voor (de hoofdpersoon) moest zijn om het beschrevene mee te maken
- In mijn verbeelding was het alsof ik (de hoofdpersoon) was
- Toen ik een tijdje aan het kijken was, leek het alsof ik in gedachten (de hoofdpersoon) geworden was
- Ik had het gevoel dat ik zelf meemaakte wat (de hoofdpersoon) meemaakte
- Tijdens het kijken leek het alsof ik de gebeurtenissen die (de hoofdpersoon) overkwamen zelf mee beleefde

Transportation
- Terwijl ik het verhaal aan het bekijken was kon ik me makkelijk voorstellen dat de gebeurtenissen daarin zich aan het afspelen waren
- Terwijl ik het verhaal aan het bekijken was, dacht ik aan de activiteit die in de kamer om mij heen aan de gang was.
- Ik kon me voorstellen dat ik mij bevond in de scene van de gebeurtenissen die getoond werden in het verhaal.
- Ik was in mijn hoofd met het verhaal bezig tijdens het kijken.
- Nadat het verhaal afgelopen was, vond ik het makkelijk om het uit mijn hoofd te zetten.
- Ik wilde weten hoe het verhaal afliep
- Het verhaal raakte me op emotioneel gebied
- Ik merkte dat ik aan het denken was over manieren waarop het verhaal anders had kunnen aflopen
- Ik merkte dat ik aan andere dingen ging denken terwijl ik naar het verhaal keek.
- De gebeurtenissen in het verhaal zijn relevant voor mijn dagelijks leven.

Spatial Presence
- Toen het verhaal eindigde voelde het alsof ik terug kwam in de ‘echte wereld’ na een reis.
- De film creëerde een nieuwe wereld voor mij, en die wereld verdween plotseling toen het verhaal eindigde.
- Tijdens het verhaal, voelde het alsof ik in de wereld was die de film creëerde.
- Tijdens het verhaal, vergat ik NOOIT dat ik midden in een experiment zat.
- Tijdens het verhaal was mijn lichaam in de kamer, maar mijn gedachten waren in de wereld die gecreëerd werd door de film.
- Tijdens het verhaal was de wereld in de film meer echt of aanwezig voor mij dan de ‘echte wereld’.
- De wereld in de film was voor mij alleen ‘iets dat ik zag’ in plaats van ‘ergens waar ik op bezoek was’.
- Tijdens het verhaal waren mijn gedachten in de kamer, en niet in de wereld gecreëerd door de film.

Flow
- Ik merkte dat mijn gedachten afdwaalden toen de film aan het afspelen was.
- Terwijl de film aan het afspelen was, merkte ik dat ik aan andere dingen aan het denken was.
- Ik vond het moeilijk om mijn hoofd bij het verhaal te houden.

Enjoyment
- Hoe erg genoot je van het verhaal?

Narrative Understanding
- Ik kon de actie en gebeurtenissen makkelijk volgen.
- Ik vond het moeilijk om de draad van het verhaal te herkennen.
- Ik moest mijn best doen om gefocust te blijven op het verhaal.
- Het verhaal was logisch en overtuigend.
- Ik begreep waarom de gebeurtenissen zich ontvouwden zoals ze deden.
- Op sommige moment in het verhaal was het niet helemaal duidelijk waarom iets gebeurde.
- Op sommige momenten vond ik het moeilijk om te begrijpen wat er gebeurde in de film.

Familiarity
- Ik had deze film al eerder gezien voordat ik deelnam aan dit experiment.

Background Questions
- Wat is je geslacht?
- Wat is je leeftijd?
- Wat is je hoogst genoteerd opleiding? (afgerond indien niet meer aan het studeren, of als je nog studeert, het niveau waar je nu mee bezig bent).
- Als je nog studeert, wat studeer je?
- Wat is je nationaliteit?
- Wat is je moedertaal?
English Proficiency
Geef aan hoe goed je bent in de volgende vaardigheden in het Engels (1 = heel slecht, 7 = heel goed)
- Lezen
- Schrijven
- Luisteren
- Spreken

Dutch Proficiency
Geef aan hoe goed je bent in de volgende vaardigheden in het Engels (1 = heel slecht, 7 = heel goed)
- Lezen
- Schrijven
- Luisteren
- Spreken
Appendix 2: English and Dutch material scripts

The bear and the hare

Two friends were walking in the woods. The bear and the hare were inseparable, always going on adventures together. But with the end of autumn approaching and winter setting in, they knew that they had to part ways. Bears after all need their winter sleep. The hare had other plans. Every year, he and his friends would gather around the big Christmas tree. He watched them decorate the tree together. The bear however, felt sleepy and decided to go to his cave. The hare felt sad and wished that, for once, his friend could celebrate Christmas with him. As day turned to night and night to day again, and the bear was fast asleep, the hare thought of a plan. On Christmas eve, the hare went on a journey to find his friend and bring him a small present. The next day, on Christmas morning, while the other animals in the forest were unwrapping their presents, the hare waited for his friend and thought his plan had failed. But suddenly, from nowhere, he saw his friend approaching. In wonder and amazement the bear stared at the beautifully decorated tree. Filled with happiness, the hare looked up and realized he had given the bear the best possible gift: to celebrate Christmas with friends.

De Beer en de Haas

The boy and the penguin

Once there was a boy who had a special friend to play with: his own penguin. The penguin was always there for him. To play hide and seek with, to help him build a gigantic Lego house, to see who can jump higher on the trampoline, to secretly read books in their own fort, and to go for a walk in the park. Penguins certainly like to swim! Even when it was time for the boy to go to sleep, his friend was with him. On other days, the boy and the penguin would play football. The penguin would often get a reward, even if the boy’s mother didn’t agree. As winter set in, the penguin did his best to help decorate the Christmas tree, and he didn’t mind posing for a Christmas card. Suddenly, the boy enthusiastically pointed at something outside: it had started to snow. His friend, however, seemed less enthusiastic. He had other things on his mind. While they were having fun together in the snow, the boy noticed again that his friend was distracted and looked a little gloomy. On the bus ride home, the same thing happened again. Lately, this seemed to occur more often. But this time the boy had a brilliant idea. On Christmas morning, he woke his friend and guided him downstairs to give him his present: the Christmas of his dreams.

De jongen en de pinguïn

Er was eens een jongen die een bijzondere vriend had om mee te spelen: zijn eigen pinguïn. De pinguïn was er altijd voor hem. Om verstoppertje mee te spelen, om hem te helpen een gigantisch lego-huis te bouwen, om te zien wie er hoger kan springen op de trampoline, om in het geheim in hun eigen fort te lezen, en om mee te gaan wandelen in het park. Pinguïns houden zeker van zwemmen! Zelfs als het tijd was voor de jongen om naar bed te gaan, was zijn vriend bij hem. Op andere dagen, speelden de jongen en de pinguïn voetbal. De pinguïn kreeg vaak een beloning, zelfs als de moeder van de jongen het daar niet mee eens was. Toen de winter begon, deed de pinguïn zijn best om de kerstboom te helpen versieren, en hij vond het niet erg om te poseren voor een kerstkaart. Opeens wees de jongen enthousiast naar iets buiten, het was begonnen te sneeuwen. Zijn vriend leek echter minder enthousiast. Hij had andere dingen aan zijn hoofd. Terwijl ze samen pret hadden in de sneeuw merkte de jongen weer dat zijn vriend afgeleid was en een beetje somber keek. Tijdens de busrit naar huis gebeurde hetzelfde weer. De laatste tijd leek dit vaker voor te komen. Maar deze keer had de jongen een briljant idee. Op kerstochtend maakte hij zijn vriend wakker en begeleide hem naar beneden om hem zijn cadeau te geven: de kerst van zijn dromen.
Appendix 3: Dutch and English items used in the questionnaire

*Story-consistent beliefs:*
* ik hecht waarde aan vriendschap
  I value friendship
* Kerstmis gaat voor mij over:
  - cadeautjes
  - familie
  - iets aardigs voor iemand doen
  For me, Christmas is about:
  - Presents
  - Family
  - Doing something kind for someone
* Ik mis een speciaal iemand in mijn leven
  I miss someone special in my life
* Ik zou vaker aardige dingen voor mensen moeten doen
  I should do kind things for people more often

*Identification (adapted 10-item scale from De Graaf et al., 2012)*
* Ik voelde mee met (de hoofdpersoon)
  I sympathized with (the main character)
* Ik heb meegeleefd met (de hoofdpersoon)
  I empathized with (the main character)
* Tijdens het kijken voelde ik me verdrietig als (de hoofdpersoon) zich verdrietig voelde
  While watching I felt (sad) when the main character felt (sad)
* Tijdens het kijken stelde ik me voor hoe het zou zijn om in de positie van (de hoofdpersoon) te zijn
  While watching, I imagined what it would be like to be in (the main character’s) position
* Ik heb me ingeleefd in (de hoofdpersoon)
  I empathized with (the main character)
* Terwijl ik aan het kijken was, beeldde ik me in hoe het voor (de hoofdpersoon) moest zijn om het beschrevene mee te maken
  While I was watching, I imagined what it must be like for (the main character) to experience what was described
* In mijn verbeelding was het alsof ik (de hoofdpersoon) was
  In my imagination, it was as if I was (the main character)
* Toen ik een tijdje aan het kijken was, leek het alsof ik in gedachten (de hoofdpersoon) geworden was
  When I had been watching for some time, it seemed as if in my thoughts I had become (the protagonist)
* Ik had het gevoel dat ik zelf meemaakte wat (de hoofdpersoon) meemaakte
  I had the feeling that I was experiencing myself what (the main character) was experiencing.
* Tijdens het kijken leek het alsof ik de gebeurtenissen die (de hoofdpersoon) overkwamen zelf mee beleefde
  While I was watching, it seemed as if I myself was experiencing the events that happened to (the main character)
Transportation (adapted 10-item scale from Green & Brock, 2000)
* Terwijl ik het verhaal aan het bekijken was kon ik me makkelijk voorstellen dat de gebeurtenissen daarin zich aan het afspeien waren
While watching the story, it was easy for me to imagine that the events were happening there
* Terwijl ik het verhaal aan het bekijken was, dacht ik aan de activiteit die in de kamer om mij heen aan de gang was.
While watching the story, I thought about all the activities that were happening in the room around me.
* Ik kon me voorstellen dat ik mij bevond in de scene van de gebeurtenissen die getoond werden in het verhaal.
I was able to put myself into the events that were taking place in the story.
* Ik was in mijn hoofd met het verhaal bezig tijdens het kijken.
In my mind, I was engaged in the story while watching.
* Nadat het verhaal afgelopen was, vond ik het makkelijk om het uit mijn hoofd te zetten.
After the story had ended, it was easy for me to get it out of my mind.
* Ik wilde weten hoe het verhaal afliep
I wanted to know how the story ended
* het verhaal raakte me op emotioneel gebied
The story moved me emotionally.
* ik merkte dat ik aan andere dingen ging denken terwijl ik naar het verhaal keek.
I noticed that I was thinking about other things while I was watching the story.
* De gebeurtenissen in het verhaal zijn relevant voor mijn dagelijks leven.
What happened in the story was relevant in my everyday life.

Spatial Presence (adapted version of 8-item scale from Kim and Biocca, 1997)
* Toen het verhaal eindigde voelde het alsof ik terug kwam in de ‘echte wereld’ na een reis.
When the story had ended, it felt as if I came back in the ‘real world’ after a journey.
* De film creëerde een nieuwe wereld voor mij, en die wereld verdween plotseling toen het verhaal eindigde.
The film created a new world for me, and this suddenly disappeared when the story ended.
* Tijdens het verhaal, voelde het alsof ik in de wereld was die de film creëerde.
During the story, it felt as if I was in the world that the film created.
* Tijdens het verhaal, vergat ik NOOIT dat ik midden in een experiment zat.
During the story, I NEVER forgot that I was taking part in an experiment.
* Tijdens het verhaal was mijn lichaam in de kamer, maar mijn gedachten waren in de wereld die gecreëerd werd door de film.
During the story, my body was in the room, but my thoughts were in the world that was created by the film.
* Tijdens het verhaal was de wereld in de film meer echt of aanwezig voor mij dan de ‘echte wereld’.
During the story, the world in the film was more real and present for me than the ‘real world’.
* De wereld in de film was voor mij alleen ‘iets dat ik zag’ in plaats van ‘ergens waar ik op bezoek was’.
For me, the world in the film was only ‘something I saw’ instead of ‘somewhere I was going’.
* Tijdens het verhaal waren mijn gedachten in de kamer, en niet in de wereld gecreëerd door de film.
During the story, my thoughts were in the room, and not in the world created by the film.

Flow (3-item scale from Buselle and Bilandzic, 2009)
* Ik merkte dat mijn gedachten afdwaalden toen de film aan het afspelen was.
I noticed that my thoughts were darting around while the video was playing.
* Terwijl de film aan het afspelen was, merkte ik dat ik aan andere dingen aan het denken was.
When the video was playing, I noticed that I was thinking about other things.
* Ik vond het moeilijk om mijn hoofd bij het verhaal te houden.
I had to do my best to keep my mind on the story.

Enjoyment (adapted 1-item scale from Wissmath et al., 2009)
* Hoe erg genoot je van het verhaal?
How much did you enjoy the story?

Narrative Understanding (7-item scale taken from Busselle and Bilandzic, 2009)
* Ik kon de actie en gebeurtenissen makkelijk volgen
It was easy for me to follow the events
* Ik vond het moeilijk om de draad van het verhaal te herkennen.
I found it difficult to discover what the story was about.
* Ik moest mijn best doen om gefocust te blijven op het verhaal.
I had to try my best to stay focussed on the story
* Het verhaal was logisch en overtuigend.
The story was logical and convincing.
* Ik begreep waarom de gebeurtenissen zich ontvouwden zoals ze deden.
I understood why things happened the way they did.
* Op sommige momenten was het niet helemaal duidelijk waarom iets gebeurde
At a certain point in the story it was not exactly clear why something happened.
* Op sommige momenten vond ik het moeilijk om te begrijpen wat er gebeurde in de film
At some points I had difficulty understanding what was happening in the film.

Familiarity (1)
* Ik had deze film al eerder gezien voordat ik deelnam aan dit experiment.
I had seen this film earlier before I took part in this experiment

English Proficiency (4) geef aan hoe goed je bent in de volgende vaardigheden in het Engels  (1 = heel slecht, 7 = heel goed)
- Lezen
Reading
- Schrijven
Writing
- Luisteren
Listening
- Spreken
Speaking

Dutch Proficiency (4)
- Lezen
Reading
- Schrijven
Writing
- Luisteren
Listening
- Spreken
Speaking

Background Questions (5):
* Wat is je geslacht?
What is your gender?
* Wat is je leeftijd?
What is your age?
* Wat is je hoogst genoten opleiding? (WO/HBO/MBO/Middelbare school)
What is your highest completed education?
* Als je nog studeert, wat studeer je?
If you are still a student, what do you study?
* Wat is je nationaliteit?
What is your nationality
* Wat is je moedertaal?
What is your mother tongue/ native language?
Appendix 4: Regression analyses output. *F* values for English language proficiency as a predictor.

<table>
<thead>
<tr>
<th></th>
<th>English</th>
<th>English with Dutch subtitles</th>
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<tbody>
<tr>
<td>- Story-consistent beliefs</td>
<td></td>
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<tr>
<td>- 2013</td>
<td><em>F</em>(1, 28) = 2.71, <em>p</em> = .111</td>
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<tr>
<td>- Identification</td>
<td></td>
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</tr>
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<td>- 2013 Bear</td>
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<td><em>F</em>(1, 3) = 11.35, <em>p</em> = .043*</td>
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<tr>
<td></td>
<td>Hare</td>
<td><em>F</em>(1, 23) &lt; 1</td>
</tr>
<tr>
<td>- 2014 Boy</td>
<td><em>F</em>(1, 15) &lt; 1</td>
<td><em>F</em>(1, 10) &lt; 1</td>
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<tr>
<td></td>
<td>Penguin</td>
<td><em>F</em>(1, 11) &lt; 1</td>
</tr>
<tr>
<td>- Transportation</td>
<td></td>
<td></td>
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<tr>
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<td><em>F</em>(1, 28) &lt; 1</td>
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<tr>
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<td>- Flow</td>
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<tr>
<td>- Enjoyment</td>
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<td><em>F</em>(1, 28) &lt; 1</td>
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<tr>
<td>- Narrative understanding</td>
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* Significant value did not meet the assumptions of Collinearity and Normality.