



Changing Your Future?

An Experimental Study on the Persuasive Effects of an Interactive Climate Change Documentary

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ABSTRACT

Interactive digital narratives (IDNs) have the potential to adequately and effectively represent the highly relevant and complex issue of climate change. The interactivity in interactive digital narratives (IDNs) can increase narrative engagement, as IDNs require active participation. Such narrative engagement, in turn, is a well-known mediator of narrative persuasion. One recent IDN is the award-winning interactive Cli-Fi ('Climate Fiction') documentary 'De eeuw van mijn opa' (DEVMO; 'Grandfather's century'), by filmmaker Sam van Zoest. Comparing the original interactive version with a non-interactive version created by the researchers, we used a between-subjects experiment (n=62) to test whether interactivity (yes/no) had an effect on narrative engagement and narrative persuasion. Perceived effectance and perceived autonomy were included as control variables. The results showed that both versions of the documentary had a persuasive effect when comparing scores before versus after exposure. However, the interactive version was not significantly more persuasive compared to the non-interactive version. Furthermore, no evidence was found of narrative engagement as a mediating factor, although narrative engagement did positively affect narrative persuasion. Surprisingly, no differences were found in control variables perceived effectance and perceived autonomy between the conditions with and without interactivity. We discuss several explanations for our findings relating to the study's power and the operationalization of interactivity in 'De eeuw van mijn opa'.

CCS CONCEPTS

• **Interaction design**; • **Professional topics**; • **Law, social and behavioral sciences**;

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KEYWORDS

Interactive Digital Narratives (IDNs), Narrative persuasion, Narrative engagement, Climate fiction (Cli-Fi), Climate change

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1 INTRODUCTION

Today's rapidly changing world of digital technology expands the possibilities for Interactive Digital Narratives (IDNs) to take form [18, 21, 35]. As opposed to traditional non-interactive narratives, IDNs provide a more interactive form of narration where the interactor receives control of certain elements of the story [24, 26]. More specifically, an IDN can be defined as a narrative that "affords dramatic agency for interactors, and the ability to intentionally influence salient aspects (character development, sequencing, outcome, etc.) of a narrative" [26]. IDNs can be used for entertainment but also for persuasive purposes. Narrative persuasion occurs when beliefs, attitudes, and intentions that are presented in a narrative are adopted by the audience after exposure to the narrative [1]. Traditional narratives have already been found to be persuasive [2, 9, 23, 33], and the same seems to go for IDNs [13, 17, 22, 31, 36, 37], although empirical evidence is slightly more mixed for the latter.

Narrative persuasion often aims to achieve prosocial outcomes. A genre of narration where prosocial persuasion often is its main goal is Climate Fiction (Cli-Fi), a term coined by journalist and climate activist Dan Bloom in 2011 [29]. Cli-Fi offers the possibility to portray potential distant future scenarios regarding environmental change and additional challenges [20]. As climate change is seen as one of the biggest challenges we face today and global warming is negatively affected by human actions, it is important that pro-environmental beliefs, attitudes, and intentions are communicated and adopted by society [6]. Cli-Fi has been found to be persuasive in a study by Schneider-Mayerson and colleagues [30]. However, to our knowledge, the persuasiveness of *interactive* Cli-Fi has yet to be investigated. Given that interactive digital narratives are believed to be especially suitable for communicating complex issues

of societal relevance [3, 18], investigating such narratives in a climate change context is meaningful. Therefore, the aim of this study is to investigate whether and how an interactive Cli-Fi narrative results in stronger persuasive effects compared to a non-interactive counterpart.

The current study will use the existing Dutch interactive documentary ‘De eeuw van mijn opa’ (‘Grandfather’s century’), created by filmmaker Sam van Zoest in 2020. With this Cli-Fi IDN, Van Zoest aimed to stimulate active thinking about the complex topic of climate change in an innovative way and convince the audience to make more sustainable choices [11, 14]. The (fictional) interactive narrative consists of an interview between a grandfather and grandson in the year 2100. The interactor can choose what the grandfather talks about and what choices the grandfather and government decided to make in the past. Based on how sustainable these choices are, the interactor gets to experience either a utopian, ambiguous, or dystopian aftermath of the interview. We expect that the active role of the interactor in this IDN positively influences the engagement with the IDN, and in turn, its persuasiveness.

Several theories explain why narrative engagement (a concept similar to transportation) plays a crucial role in narrative persuasion. The Transportation Imagery Model by Green and Brock [12] states that whenever receivers feel transported to the narrative world and mental imagery is evoked by a narrative, receivers maintain less mental capacity and motivation to counterargue the presented beliefs, attitudes, and intentions of a narrative. This makes receivers more likely to adopt narrative-consistent beliefs, attitudes, and intentions. In line with this, the Extended Elaboration Likelihood Model (E-ELM) by Slater and Rouner [34] and the Model of Narrative Comprehension and Engagement by Busselle and Bilandzic [4] state that persuasion of narratives derives from the extent to which a receiver feels engaged with a narrative. This crucial role of narrative engagement for narrative persuasion receives empirical support from a meta-analysis by Van Laer et al. [19].

Interactive narratives may be even more persuasive than non-interactive narratives, as the higher level of agency in interactive narratives is expected to result in more narrative engagement [13]. As Hand and Varan [15] state: in an interactive narrative, an interactor “enacts rather than witnesses the story, and in this way the audience more deeply [internalizes] and personalizes the story events. . . the consequences of those events are felt more deeply” [p. 13]. Thus, due to the more active participation in interactive narratives, higher levels of narrative engagement are expected. Moreover, as more mental capacity is dedicated to making decisions in interactive narratives, less capacity remains for counterarguing the presented beliefs, attitudes, and intentions, which makes it more likely for the audience to adopt them. This increases the likelihood that interactive narratives are more persuasive than non-interactive narratives [13].

However, empirical research is needed to test this claim. Oh et al. [22] empirically tested whether a written interactive narrative within the health domain was more transporting and persuasive than a non-interactive version. Results showed that the interactive narrative led to more narrative-consistent beliefs and that transportation mediated this effect. Zhou and Kim [36] tested a narrative game and found positive persuasive effects of the interactivity in this game. A meta-analysis by Zhou et al. [37] showed

a positive persuasive effect of narrative game-based interventions as well. However, whether the results of these studies can also be generalized to other narrative contexts, like interactive Cli-Fi documentaries, remains unclear.

Therefore, to provide additional empirical evidence of the persuasive effects of audiovisual Cli-Fi IDNs, this study will test whether the audiovisual Cli-Fi IDN ‘De eeuw van mijn opa’ (DEVMO; ‘Grandfather’s century’) has stronger persuasive effects than its non-interactive counterpart and whether narrative engagement mediates this effect. Besides adding to the literature, the current study will also provide insights for organizations focusing on social good. IDNs offer interactors a safe environment to experiment with challenging decisions leading to different realistic outcomes, thus giving experiential insight into (complex) cause-and-effect relationships. This way, prosocial behavior (in this study in the sense of preserving the planet for future generations) can be explored, experienced and evaluated. Interactivity – here in the form of autonomy to choose how the conversation between a grandfather and his grandson unfolds – support role-identification and thus engagement with the given setting. This way, IDNs have the potential to engage audiences in unique interactive ways, resulting in persuasive and transformative learning experiences in comparison to non-interactive mediums [25, 31]. Empirical testing of such effects is of key importance for both practitioners and scholars. To gain these insights, the following research question will be answered: RQ: To what extent does the interactivity in an interactive documentary on climate change affect narrative persuasion, and to what extent is this effect mediated by narrative engagement?

2 METHOD

Ethical approval for this study was granted by the Research Ethics and Data Management Committee of the Tilburg School of Humanities and Digital Sciences at Tilburg University.

2.1 Design and Participants

To test whether interactivity affects narrative persuasion, a between-subjects experimental design was used. The independent variable of this study was interactivity: one condition featured the original interactive documentary; the other condition featured a non-interactive version of this documentary that did not present choices to the interactor. Participants saw only one of these two versions. The main dependent variable of this study was narrative persuasion (beliefs, attitudes, and intentions regarding climate change). Narrative engagement was included as a mediator in the effect of interactivity on narrative persuasion.

Because the IDN used is in Dutch, only Dutch-speaking individuals participated in our study. Participants were gathered by the use of the Human Subject Pool of the Tilburg School of Humanities and Digital Sciences supplemented by convenience sampling. This resulted in a total sample of 64 participants (41 females, 23 males) in the age range of 18-25 ($n = 59$) and 26-35 ($n = 5$).

2.2 Stimuli

The stimulus used in this study is the interactive Cli-Fi documentary ‘De eeuw van mijn opa’ (DEVMO; ‘Grandfather’s century’; <https://www.eeuwvanmijnopa.nl>) by filmmaker Sam van Zoest.

The story is a retrospective interview taking place in the year 2100. A grandfather is interviewed by his grandson about the choices made in the preceding century regarding climate change and global warming. Initially, the grandfather's generation was not that concerned about climate change, but this started to change over the course of the century (and interview) when people and government became more aware of the need to take action.

In the first part of the narrative, where the grandfather talks about his experiences when he was younger, the interactor can make choices at a satellite level [8]: the choices can embellish the narrative but do not influence the key events of the narrative. In this first part of the narrative, a foldback structure is used with only local effectance [7, 26]. From the second part onwards, choices are no longer at satellite level but at a kernel level: the choices influence the outcome of the narrative having global effectance [8, 26]. From this point on, the story can unfold in different ways. More sustainable choices by the interactor lead to the utopian outcome, where grandfather and grandson walk through the forest and peacefully watch a green city from a distance. Two ambiguous outcomes show the elite, including grandfather and grandson, fleeing earth in a spaceship towards an uncertain future. The dystopian outcome (resulting from making the least sustainable choices) shows that gas masks have to be worn in order to go outside due to the polluted air.

Given the different potential endings in the interactive condition, we created not one, but three non-interactive versions of the interactive documentary. This allowed for a 'cleaner' experimental comparison of the effect of interactivity versus non-interactivity because we kept the content of the non-interactive condition as similar as possible to the interactive condition. The three non-interactive versions were based on the most frequently chosen storylines in the interactive condition, which were registered via screen recordings. Of the 34 participants in the interactive condition, 13 participants ended in the dystopian scenario, 10 participants in the first ambiguous space scenario, 10 participants in the second ambiguous space scenario, and 1 participant in the utopian scenario. Based on this data, we decided to create three non-interactive versions: one dystopian version and one for each ambiguous space scenario. These three versions were equally divided among participants in the non-interactive condition allowing for a fair comparison between the conditions with and without interactivity. All participants saw only one version of the documentary, after which they completed the measures.

2.3 Measures

All measures can be found on OSF: <https://tinyurl.com/OSF-Changing-your-future>.

2.3.1 Narrative persuasion. Narrative persuasion was measured by assessing to what extent the participants agreed with the beliefs, attitudes and intentions reflected in the documentary. Example items are: 'I believe that there is an urgent climate problem' (belief), 'I think that at the moment, I and the rest of my generation are doing too little to combat climate change' (attitude), 'I think that I have to make more sustainable choices quickly' (intention). In total, 4 beliefs, 4 attitudes, and 4 intentions were assessed both before and after exposure to the documentary using a 7-point Likert scale (1 =

completely disagree; 7 = completely agree). The reliability of this narrative persuasion scale was good (before exposure: $\alpha = .85$ / after exposure: $\alpha = .91$). For the analysis, we used difference scores (i.e., we subtracted the scores on the persuasion items before exposure from the scores after exposure), with a positive score indicating an increase in persuasion. To reduce the likelihood that participants found out the goal of the study in advance, some filler items were added to the pretest about related but not relevant subjects, in this case, veganism and buying locally. These filler items were not included in the analysis.

2.3.2 Narrative engagement. The short (12-item) scale for narrative engagement by Busselle and Bilandzic [5] was used, consisting of four components: emotional engagement, narrative understanding, attentional focus, and narrative presence. A 7-point Likert scale (1= completely disagree | 7 = completely agree) was used. Example items are: 'The story affected me emotionally' and 'At points, I had a hard time making sense of what was going on in the narrative' (reversed). The reliability was acceptable ($\alpha = .74$).

2.3.3 Manipulation checks. Perceived effectance was measured based on a two-item scale by Roth [24], e.g., 'My choices had a significant impact on the events in the story'. Perceived autonomy was measured by a 2-item scale by Sheldon et al. [32] e.g., 'While experiencing the story of 'Grandfather's century', I could freely choose what I wanted to do in the story'. A 7-point Likert-scale (1= completely disagree - 7 = completely agree) was used. Reliability was acceptable (perceived effectance: $\alpha = 0.73$ | perceived autonomy: $\alpha = 0.75$).

2.3.4 Procedure. The majority of the data ($n = 51$) was collected in the lab. Upon coming to the lab participants were welcomed by the researcher and assigned a cubicle in which they would complete the experiment. Participants were informed of the general topic (not disclosing our focus on climate change), procedure, and approximate duration of the experiment. After providing informed consent, participants started the experiment. First, a questionnaire was presented in Qualtrics about their current (pre-exposure) beliefs, attitudes, and intentions regarding climate change (and filler items). At the end of this first questionnaire, there was a link to a webpage featuring either the interactive or a non-interactive version of the documentary with a note to return back to the questionnaire after the documentary ended. In the interactive condition, participants had to call for the researcher before the documentary began to start the screen recording, and afterward to end it. After being exposed to the documentary, participants filled in the last part of the questionnaire that contained the measure of beliefs, attitudes, and intentions after exposure, the narrative engagement scale, and the manipulation and attention checks (2 multiple choice questions about the presented content). After participants were finished, they were thanked and debriefed by the researcher.

A small part of the study had to be conducted via Zoom ($n = 13$). In the Zoom meeting, participants were briefed by the researcher in the same way as in the laboratory. Following, both researcher and participants turned off the microphone and camera and participants started the experiment. The researcher was always available for questions in the Zoom meeting. After participants were finished, they were thanked and debriefed by the researcher. No differences

Table 1: Means and standard deviations

Outcome measure	Non-interactive condition (n = 28)	Interactive condition (n = 34)
Narrative Persuasion ^a	M = .36 (SD = .52)	M = .44 (SD = .43)
Beliefs	M = .22 (SD = .50)	M = .30 (SD = .48)
Attitudes	M = .46 (SD = .71)	M = .52 (SD = .57)
Intentions	M = .43 (SD = .69)	M = .56 (SD = .74)
Narrative Engagement	M = 4.64 (SD = 1.05)	M = 4.68 (SD = 1.18)
Perceived Effectance	M = 4.21 (SD = 1.42)	M = 4.72 (SD = 1.37)
Perceived Autonomy	M = 4.11 (SD = 1.57)	M = 4.82 (SD = 1.28)

^a All narrative persuasion means reflect difference scores, obtained by subtracting the pre-exposure score from the post-exposure one.

were found between the results of participants that participated in the laboratory and participants that conducted the experiment online. The whole experiment took approximately 30 minutes.

2.3.5 Data analysis. After the experiment was carried out, the data was cleaned and analyzed. The data of 2 out of the 64 participants was excluded, as not all data of these 2 participants was stored. All participants indicated that this was their first time being exposed to this Cli-Fi interactive documentary, and all participants passed the attention checks. The data of the remaining 62 participants was analyzed in SPSS using Hayes' [16] PROCESS model 4. It was investigated whether there was a main effect of interactivity (no/yes) on narrative persuasion and whether narrative engagement mediated this effect, controlling for perceived effectance and perceived autonomy. Additional t-tests were performed to assess whether either version of the documentary had a persuasive effect (comparing before versus after scores on the persuasive measure), and to see whether the two conditions differed in narrative engagement, perceived effectance and perceived autonomy. Statistical assumptions like normal distributions were checked for all analyses. Given that some variables were not normally distributed (as indicated by their skewness/kurtosis), we performed bootstrapping and recommend giving greater importance to the reported bootstrapped confidence intervals in the Results section.

3 RESULTS

We summarize the results in Table 1. All items were measured on a 7-point Likert scale, with 1 = completely disagree and 7 = completely agree.

3.1 Persuasive effect documentary (before versus after exposure)

A paired-samples t-test was conducted to test whether viewing the documentary (either the interactive or a non-interactive version) had a persuasive effect at all (i.e., comparing the persuasion scores before versus after exposure to the documentary). Even though participants already agreed with the presented statements to a high extent before exposure, the documentary still had a positive significant persuasive effect. Before exposure to the narrative, participants scored an overall average of $M = 4.75$ ($SD = 0.93$) on persuasion,

which increased to $M = 5.15$ ($SD = 1.04$) after exposure. This difference was significant ($t(61) = -6.77$, $p < .001$; 95% CI $[-0.52, -0.28]$). The difference represents a medium effect size ($d = .47$).

3.2 Manipulation checks

To check whether there was a difference in the participants' perceived effectance and perceived autonomy between the conditions with and without interactivity, two independent t-tests were performed. First, it was tested whether the perceived effectance differed between the conditions. On average, the perceived effectance was lower in the non-interactive condition ($M = 4.21$, $SD = 1.42$) than in the interactive condition ($M = 4.72$, $SD = 1.37$). However, this difference is not significant ($M_{dif} = 0.51$, $t(60) = 1.42$, $p = .153$; 95% CI $[-0.15, 1.20]$). Next, an independent t-test was performed to test whether there is a difference in perceived autonomy. On average, participants in the non-interactive condition reported lower perceived autonomy scores ($M = 4.11$, $SD = 1.57$) than participants in the interactive condition ($M = 4.82$, $SD = 1.28$). This difference is marginally significant ($M_{dif} = .72$, $t(60) = 1.98$, $p = .052$; 95% CI $[-0.01, 1.44]$).

3.3 Effect of interactivity on dependent variable narrative persuasion

To assess whether interactivity affected narrative persuasion, the total effect in the PROCESS analysis (Hayes' [16] model 4) was inspected. The increase in scores on the persuasion items was slightly larger in the interactive condition ($M = .44$, $SD = .43$) compared to the non-interactive condition ($M = .36$, $SD = .52$). However, the total effect was non-significant ($b = 0.04$, $t = 0.35$, $p = .73$, 95% BCa CI $[-0.20, 0.28]$) meaning that no effect of interactivity on narrative persuasion was found. In other words, the interactive version of the documentary was not found to be more persuasive than the non-interactive version.

3.4 Mediation analysis of effect of interactivity on narrative persuasion via narrative engagement

The PROCESS analysis (Hayes' [16] model 4) was also used to test whether narrative engagement mediated the effect of interactivity on narrative persuasion. Results of the analysis (as shown in Figure 1) showed that there is no significant indirect effect of interactivity

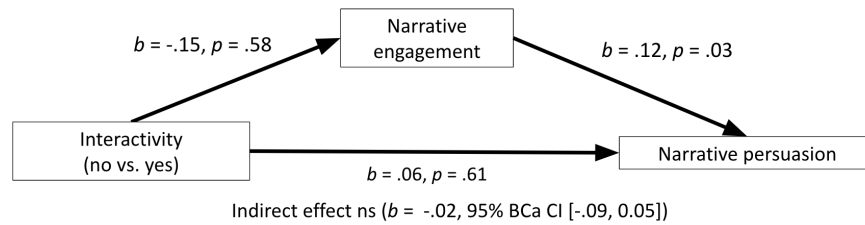


Figure 1: Overview results mediation analysis

via narrative engagement on narrative persuasion ($b = -.02, 95\% \text{ BCa CI } [-0.09, 0.05]$). Our independent variable interactivity did not significantly affect the mediator narrative engagement ($b = -.15, t = -0.55, p = .58, 95\% \text{ BCa CI } [-0.69, 0.39]$). The relationship between the mediator narrative engagement and the dependent variable narrative persuasion was significant ($b = .12, t = 2.19, p = .03, 95\% \text{ BCa CI } [0.01, 0.24]$). The direct effect of interactivity on narrative persuasion was not significant ($b = 0.06, t = 0.52, p = .61, 95\% \text{ BCa CI } [-0.17, 0.29]$). Concluding, narrative engagement did not serve as a mediator in the effect of interactivity on narrative persuasion.

4 DISCUSSION AND CONCLUSION

This study aimed to contribute to the literature on the persuasive effects of audiovisual interactive digital narratives (IDNs) for social good, focusing on the topic of climate change. Whereas prior studies have pointed out the strong persuasive potential of narratives, less is known about the effect of audiovisual (Cli-Fi) IDNs. Therefore, we investigated to what extent an audiovisual interactive versus non-interactive Cli-Fi narrative differ in narrative persuasion, and whether this effect is mediated by narrative engagement.

To answer this research question, an experiment was performed in which the Dutch interactive Cli-Fi documentary ‘De eeuw van mijn opa’ (DEVMO; ‘Grandfather’s century’) was tested against a non-interactive version, with participants viewing either the interactive or the non-interactive version. Overall, the documentary proved to be persuasive, because persuasion scores increased after viewing a version of the documentary. This shows that Cli-Fi narratives are an effective instrument for persuasion, which is in line with previous studies that acknowledge the persuasive power of narratives [2, 23, 33] and Cli-Fi’s in particular [30]. However, contrary to our expectations and previous work on interactive narratives specifically [13, 17, 22, 36, 37], the interactive version of the documentary (which should offer users more narrative agency) did not score higher on persuasive outcomes compared to a non-interactive version.

The second part of our research question was answered by investigating whether narrative engagement mediated the effect of the interactive vs. non-interactive version on the persuasive effects of DEVMO. Interestingly, on average, interactors reported nearly equivalent narrative engagement scores in the interactive and non-interactive conditions. In other words, interactivity did not affect narrative engagement in this study, and narrative engagement was not a mediating factor in the effect of interactivity on narrative

persuasion. We did find a positive relation between narrative engagement and narrative persuasion, which is in accordance with a meta-analysis by Van Laer et al. [19] and supports Green and Brock’s Transportation-Imagery Model [12], Slater and Rouner’s Extended Elaboration Likelihood Model [34], and Busselle and Bilandzic’s Model of Narrative Comprehension and Engagement [4].

4.1 Potential explanations for these findings

Surprisingly, our manipulation checks showed that the interactive and non-interactive version of the documentary did not differ significantly in perceived effectance and perceived autonomy. In other words, even though interactors of the interactive version of the documentary could choose how the conversation between a grandfather and his grandson would unfold, they did not feel like (a) their input had more impact on story events, or (b) that they were more free to choose what they wanted to do than the viewers of the non-interactive version who could not make any choices. We would have expected scores for perceived effectance and autonomy to be lower in the non-interactive condition and higher in the interactive condition. Potential explanations can be found in the methodological set-up of our study and in the type of interactivity in this documentary.

The methodological execution of our study may have contributed to the non-significant difference in our manipulation checks in several ways. First, because our experiment had a smaller sample than optimal ($n = 62$), it is possible that its statistical power was too low to detect significant differences between these conditions. Second, participants in the non-interactive condition may not have fully understood our manipulation check questions. For example, these questions referred to being free to choose what they wanted. Because there were no choice options in the non-interactive condition, participants may have reverted to the ‘middle’ 4-point score of the scale to indicate ‘neutral’ or ‘does not apply’. This would unduly increase manipulation check scores in the non-interactive condition. In future research, it would be beneficial to include open-ended, more qualitative measures (as well as run pretests) in order to see how participants in non-interactive conditions interpret questions that clearly (only) apply to an interactive condition.

The type of interactivity in the documentary DEVMO may also explain the relatively low perceived effectance and perceived autonomy in the interactive condition. Specifically, three aspects of the documentary stand out: (1) the lack of feedback on the choices made, (2) the limited impact that the interactor can make, and (3)

the limited options that interactors can choose from. First, as for the lack of feedback, high perceived effectance evolves from system feedback about the consequences of the interactor's choices [26, 27]. But DEVMO did not provide any feedback on participants' decisions. Some participants were even unaware that their choices could result in different outcomes of the narrative. When the researcher asked participants how their narrative ended, some participants responded surprised that there were multiple possible endings. Thus, due to the lack of system feedback, participants may have felt that their choices did not affect the story in a meaningful way, which would lower perceived effectance. Although the creator of DEVMO wanted to produce insights into the consequences of certain decisions [11, 14], the current effectance implemented in the narrative may not optimally contribute to this goal. By adding system feedback to the narrative that tells interactors how their choices affect the narrative, and informing them about the multiple possible outcomes of the narrative, clearer insights might have been provided to the interactors about what choices led to what consequences [26, 27]. One way to make narrative agency more tangible could be a flowchart of interactor's choices, highlighting the chosen part while showing alternative paths grayed out. A good example for this can be seen in the narrative adventure game 'Detroit: Become Human'.

Second, as for the limited impact of the interactor, DEVMO is presented as an interview between a grandson and his grandfather, looking back at the preceding century. This long-time scale fits well with the topic of climate change, which unfolds slowly and gradually. It would be unrealistic to portray this in a short time frame. However, relating to effectance, the impact of the interactor is quite limited. The interactor can only choose what has happened in the past (not moving forward to the future) and in some cases not even what the grandfather did but how the government responded to a situation. Such choices are far removed from having (a sense of) real-time, current effectance.

Third, with regard to the limited options that interactors can choose from, it is noteworthy that interactors could choose from just two or three options at decision points. As autonomy evolves from having many, realistic options to choose from [10, 26], it might be that participants 'missed' certain answers or preferably had more choices to choose from. Moreover, in the interactive documentary, participants could only influence the choices that were presented to them at a certain moment, and there was no possibility to, for example, freely navigate through (parts of) the story world. These factors, taken together, might have resulted in lower perceived autonomy in the original interactive documentary. All in all, these aspects of the interactive documentary could explain its relatively low perceived effectance and autonomy. This may in turn explain why no difference in narrative engagement and narrative persuasion was found between the interactive and non-interactive versions. Higher levels of (perceived) effectance and autonomy could have enhanced the intrinsic motivation to engage in the experience [28], which in turn could have increased the persuasive impact.

It is notable that the interactive and non-interactive version of the audiovisual documentary did not differ in perceived narrative engagement, despite theoretical models suggesting that interactive narratives should enhance engagement [13, 15]. This finding may

indicate that interactivity may work to hinder narrative engagement (and in turn narrative persuasion). Busselle and Bilandzic [4] state that the smooth creation of mental models leads to narrative engagement. However, Green and Jenkins [13] theorize that it is possible that decision moments, like the ones present in DEVMO, might disrupt the creation of mental models as it steers away the attention from the narrative world. This can be detrimental to narrative engagement. In addition, Green and Jenkins suggest that these decision points give interactors the opportunity to evaluate the given decisions, allowing a critical mindset for the interactor. Both the possibility of steering away from the narrative world and developing a critical mindset of the choices might have been detrimental to narrative engagement and in turn to the adoption of narrative consistent beliefs, attitudes, and intentions.

All in all, future experimental research into the persuasive effects of IDNs should reflect on the type and level of interactivity in stimulus materials, as well as the evaluation tools, procedures, and measures used, in order to optimally understand IDNs' persuasive potential.

4.2 Conclusion

To conclude, this study aimed to investigate whether there is a difference in the persuasive effects of an interactive and non-interactive audiovisual Cli-Fi narrative, and whether this effect is mediated by narrative engagement. The results of our experiment showed no effect of interactivity on narrative engagement, and no mediating effect of narrative engagement. This study did, however, find a positive relation between narrative engagement and narrative persuasion (in line with previous research) and significant differences between before-and-after exposure to the Cli-Fi narrative. Remarkable findings of the current study relate to the perceived effectance and perceived autonomy of the documentary. Future research might want to investigate the persuasive effects of IDNs with narratives that contain different levels of effectance and autonomy.

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