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Emotional shifts, event-congruent emotions, and transportation in narrative persuasion

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ABSTRACT


Emotional shifts in stories are assumed to contribute to narrative persuasion by enhancing engagement with the story. This effect might depend on the congruency of audiences' emotional experience to the emotions implied by the story. In two experiments with wellcontrolled story manipulations, we compared the persuasive effect of stories with shifts in valence (from positive to negative to positive) to continuously positive story versions and examined moderating influences of event-congruent emotions and narrative transportation. The positive story versions were consistently more persuasive than the versions with emotional shifts. Transportation increased the persuasive effect of the stories, but only in audiences that listened to the shifting stories. In both emotional story trajectories, event-congruent emotional experience enhanced persuasion. We discuss our findings in terms of boundary conditions of the effect of emotional shifts in narrative persuasion.

Stories or narratives are constantly present in everyday life. They are used for entertainment, for comfort, and for sharing experiences or to convey lessons and messages. Narrative formats are commonly used in advertising and political speeches to appeal emotionally to an audience, to capture their attention, and to persuade them. The process of being influenced by a narrative in beliefs, attitudes, and behavior is called *narrative persuasion* (Braddock & Dillard, 2016; Green et al., 2019; Hamby et al., 2018; Ratcliff & Sun, 2020). Narrative persuasion differs from persuasion by non-narrative material in several respects. Among others, the persuasive intent is much less obvious because it recedes behind entertainment and, evidently, the textual features of narratives differ from argumentative texts that are commonly used to change recipients' beliefs. Therefore, unlike in classical persuasion models such as the Elaboration Likelihood Model (Petty & Cacioppo, 1986), central and peripheral processing pathways are not separate in models of narrative persuasion (e.g., in the extended elaboration likelihood model by Slater & Rouner, 2002; see also Ott et al., 2020). The persuasive impact of stories rather depends on factors such as *narrative* and *character engagement* (Nabi & Green, 2015) that refer to a state of immersion or absorption and merging with the narrative characters.

Compelling narratives capture the audience's attention and create an emotional connection. Vivid descriptions help to "step into" the story and create the sense of immersion and attentional, cognitive and emotional involvement in the story, a state called *narrative transportation* (Appel et al., 2015; Green & Brock, 2000, 2002). On transported audiences, a persuasive message couched in the story can

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take full effect. Nabi and Green (2015) hypothesize that emotionally shifting narratives potentially enhance this process. Audiences that are swept into roller coaster rides of emotions, they state, are drawn into the story world and stay engaged over the course of the story. Along the way, they inadvertently engage with the story message.

The role of emotional shifts in stories for their persuasive impact is currently the subject of much research (e.g., Alam & So, 2020; Appel et al., 2019; Fitzgerald et al., 2019; Sangalang et al., 2019; Winkler et al., 2022). Findings by Appel et al. (2019) suggest that it is not only the emotional variation of the story itself that matters, but also the match between the audience's emotional experience and the emotions implied by the story that has an impact on its persuasive power. In our study, we examined whether a story version with emotional shifts is more persuasive than a version without emotional shifts, whether we find an influence of event-congruent emotions in addition to the influence of transportation, and how these two factors relate to each other in stories with and without emotional shifts. We discuss our approach and findings in reference to the original and extended elaboration likelihood models.

Narrative persuasion and the role of transportation

Persuasion through stories not only involves the rational processing of information, but also audience's emotions, imagination, and empathic reactions to stories (Braddock & Dillard, 2016; Hamby et al., 2017; Moyer-Gusé, 2008; Ratcliff & Sun, 2020). When a person emotionally engages with the story and its characters, they are more likely to adopt the values, attitudes, and beliefs that are conveyed in the story (Green & Brock, 2000; Slater, 2007; Slater & Rouner, 2002). Fictional experiences gain a quality similar to reality through shifts in perspective and mental imagery that constitute transportation (Green, 2008; Green et al., 2019, 2008; Mar & Oatley, 2008; Van Laer et al., 2014). These features can lead to deeper understanding and increased cognitive engagement (Brewer & Lichtenstein, 1982; Mar, 2004; Zacks et al., 2007), increasing the likelihood that the audience will remember and internalize the beliefs that are conveyed (Kreuter et al., 2010).

In their Extended Elaboration Likelihood Model (E-ELM), Slater and Rouner (2002) theorized that audiences are too wrapped up in the experience during a story to think critically about the embedded messages. Stories can influence recipients' beliefs in a variety of ways, such as changing or reinforcing existing beliefs, introducing new beliefs, or altering their perspective or understanding of a particular issue or topic (Petty & Cacioppo, 1986; Slater, 2002). Therefore, persuasion can occur regardless of their initial stance on the issue. In sum, the more immersed individuals are in stories, the greater the story-consistent changes in their cognitions, emotions, and intentions (e.g., Appel & Mara, 2013; Appel & Richter, 2010; Gebbers et al., 2017; Isberner et al., 2019; Richter et al., 2014; Schreiner et al., 2018; Van Laer et al., 2014).

Fostering narrative persuasion through emotional shifts

Transportation itself is a holistic concept comprising cognitive, attentional, and emotional processes wherein some researchers have focused on the specific role of emotional processing for narrative persuasion (Moyer-Gusé, 2008; Murphy et al., 2013; Slater & Rouner, 2002; Van Laer et al., 2014). Narratives are characterized by their emotional trajectories, which, for example, underlie genre classifications such as tragedies or the classical happy-ending stories.

A theory that makes specific assumptions about the impact of *emotional shifts* in stories on their immediate persuasive effects comes from Nabi and Green (2015). These shifts, they state, can be between emotions of different valence (positive to negative or negative to positive), between emotions of the same valence (e.g., hope to joy or sadness to anger), and shifts in the intensity of a single emotion. They point out that emotional shifts likely influence transportation by attentional and arousal processes. Over the course of the story, they bind and maintain attention and cognitive resources to the plot through orienting responses and the buildup and release of suspense. The increased focus on the plot can create vivid mental imagery and promote the overall state of

transportation (Busselle & Bilandzic, 2009; Samur et al., 2021; Van Laer et al., 2014). Recipients are persistently exposed to the story's message and persuasion becomes more likely.

Several studies have compared persuasive effects of emotionally varying stories with those of less or no emotional variation (Adams et al., 2022; Alam & So, 2020; Carrera et al., 2008, 2010; Fitzgerald et al., 2019; McAllister, 2020; Ray et al., 2019; Rossiter & Thornton, 2004; Sangalang et al., 2019). For example, Alam and So (2020) focused on a particular type of emotional shift that they operationalized as "a shift in emotional valence experienced during message exposure (positive-negative, negative-positive)" (p. 161). It is important to emphasize that emotional shifts occur at the experiential level of the audience in reaction to the narrative and therefore do not describe shifts of the storyline itself. Alam and So (2020) also distinguished between the shifting vs. non-shifting messages (stimuli respectively) and experienced valence at the beginning and the end of the narrative.

In their experiment, Alam and So (2020) created stories with different emotional trajectories by combining story parts of different valence (positive and negative). They found greater transportation in emotionally shifting stimuli and transportation predicted story-consistent beliefs. Also, a negative (vs. positive) ending valence significantly heightened transportation. However, the authors noted limitations in terms of the comparability of their story versions. For one, the shifting stories were about double the length of the non-shifting stories which could be an important factor concerning the time for audiences to become transported. Another limitation was the lack of risk information in the positive only message that was included in the other story versions (in the negative story part), reducing the comparability of message content between the experimental conditions.

Although, overall, we can assume a positive relationship between emotionally shifting stories, emotional shifts of the audience, and transportation, the relationships of these variables have rarely been examined in research on narrative persuasion (Alam & So, 2020; Ophir et al., 2021; Winkler et al., 2022). Drawing on the EEG-based research by Gordon et al. (2018), we can assume that imagination precedes emotional shifts, at least to some extent, which suggests a kind of immersion prior to the shifting emotional experience. As the story progresses, a bidirectional relationship in the sense of a self-reinforcing loop likely emerges. The more transported the person (into a story with a shifting storyline), the likelier emotional shifts, and the more emotional shifts, the stronger recipients' transportation. Supporting evidence comes from Appel et al. (2019). They found that transportation promotes story-congruent emotional experience, that is, high congruency of subjective emotions and emotions conveyed by the story. In their study, recipients felt most congruent with the implied emotions of an audiovisual narrative's key scenes after reading a positive review that promoted their overall transportation.

Manipulation of story valence

Our goal with the present study was to contribute to the understanding of emotional shifts and transportation in narrative persuasion with careful consideration of emotional congruency and story manipulation. Previous research points to at least three important story features that need to be controlled for when comparing a shifting to a non-shifting emotional storyline: story length, event structure (events missing or in different order), and message information (Alam & So, 2020; Carrera et al., 2008, 2010; Rossiter & Thornton, 2004). In our study, we aimed to keep these features comparable between story versions. To our knowledge, no study to date has compared fictional stories with different emotional trajectories while holding length, event structure, and message information constant.

We used two possibilities of story manipulations for comparisons between the persuasive effects of a short story with two valence shifts (positive to negative to positive) with a consistently positive story version. In one experiment, the underlying story valence was manipulated by different event interpretations of the protagonist. In a second experiment, valence was manipulated by an event difference in a storyline parallel to the one conveying the message information. In both versions, the protagonist's initial situation is identical, and they are confronted with the same issue throughout the story

versions. In both manipulations, the story message is affirmed by a happy ending that is also identical in the shifting and non-shifting story version. The manipulation is limited to each stories' middle part.

Hypotheses and research questions

In both experiments, we expected both story versions (one with and one without shifts) to be persuasive but to different degrees. Based on the assumptions of Nabi and Green's (2015) framework, the shifting-valence story should cause a greater change in beliefs in favor of the story message than the single-valence story (Hypothesis 1). However, we only assumed a manipulation-based effect if participants experienced the story valence as intended. According to Appel et al. (2019), the persuasive effect should depend on how participants experience the emotional content of the story. We expected a manipulation-consistent experience of valence in the crucial middle part of the story to enhance the persuasive effect (Hypothesis 2).

According to the typical moderating role of transportation in narrative persuasion, the more the audience is being drawn into the story world, the more strongly a story message can take effect (Appel & Richter, 2010; Green & Brock, 2002; Hamby et al., 2017; Richter et al., 2014; Zwarun & Hall, 2012). Thus, we expected participants who experience a deeper state of transportation to report stronger story-consistent beliefs per se (Hypothesis 3). According to Nabi and Green (2015), the shifting storyline should contribute to binding the audience's attention. Therefore, the shifting storyline should be particularly persuasive the more transported the audience feels (Hypothesis 4).

Experiment 1

Experiment 1 tested the predictions using a narrative about a student who abandons his field of study. We created a shifting and a continuously positive story version by his interpretation – negative or positive – of the same event in the middle part of the story.

Method

Participants and sample size requirements

We assumed a medium to small effect size ($f^2 = .10$) for the focal effect of story structure on post-message beliefs. For detecting an effect of this size, a sample size of 100 participants is required (with $\alpha = .05$, $1-\beta = .80$; Cohen, 1988; optimal sample size computed with G*Power, Faul et al., 2007).

A total of 103 adults participated in the laboratory study for course credit or a financial reward. The data of three persons were excluded as outliers from the final sample (for distribution and outlier analyses, see Online Supplement S1). The remaining 100 adults (72 women) were 23.22 years old on average ($SD = 6.39$ years) and predominantly university students ($n = 93$).

The story and manipulation of the narrative arc

Participants listened via headphones to one of two versions of a story about a student who abandoned his study subject (1450 words, 9:11 min duration). The story versions were drafted and written to fit the manipulation criteria. A professional male narrator recorded the audio versions.

The stories consisted of three parts (beginning, middle, end) and shared an identical beginning and ending. Only their middle parts differed in terms of the protagonists' interpretation of and emotions toward the same critical life event. The protagonist, Simon, is a student who has almost graduated from a university. The story's exposition describes his meeting with a friend whom he tells about his doubts concerning his field of study. In the middle part, Simon's parents announce their plan to emigrate from their home country for professional and individual fulfillment. In the positive version, Simon feels inspired by them. In the negative version, he feels left behind. In the end, both lead him to the decision of abandoning his current field of study for a different subject. Ten years later, he is very happy with his decision and has no regrets. Thus, one version shifts in valence (happy – sad – happy)

and the other is continuously positive/happy (see the story synopses in [Appendix A](#) and the story versions in full length at the repository of the Open Science Framework: <https://osf.io/kdn25/>). Both imply an affirming message for dropping out of studies to switch to a more fitting subject.

Measures

Transportation. After the narration ended, we measured transportation using the German version of the Transportation Scale–Short Form (Appel et al., 2015). The six items present statements of attentional and emotional involvement and mental imagery (e.g., “I could picture myself in the scene of the events described in the narrative”). Participants rated their agreement on a scale from 1 (not at all) to 7 (completely). Two items captured the imagery of characters (“While reading the narrative I had a vivid image of [character]”) and were used for Simon and his parents (Cronbach’s $\alpha = .84$).

Subjective valence. Participants were asked to think back to each story part and rate their experience of valence on a Self-Assessment Manikin scale (short SAM, Bradley & Lang, 1994). The 7-point scale comprised pictures ranging from negative to positive valence and were scored from -3 to 3 , making 0 the neutral midpoint. The standardized cues for each story part fit both versions (e.g., for the middle part: “Simon visits his parents. He reflects on his parents’ decision to move to China,” see [Appendix A](#)).

Emotional intensity. Connected to the SAM query were intensity ratings of six basic emotions (happiness, sadness, anger, fear, disgust, surprise) for each part of the story. Participants indicated on a 7-point scale ranging from 1 (not at all) to 7 (completely) how intensely they experienced the respective emotion during the story part.

Belief measures. The story addressed the topic of dropping out of college at a late stage during studies because of a mismatch between the subject field and personal interests. We created eight items to assess recipients’ beliefs toward dropping out of studies (e.g., “A course of study that does not match one’s interests should be dropped in order to re-orient oneself,” Cronbach’s $\alpha_{pre} = .79$, $\alpha_{post} = .88$). Participants indicated their agreement with the statements on a 7-point response scale, ranging from 1 (not at all) to 7 (very much). For a complete list of items see Supplement S2.

Procedure

The data for this study were collected as part of a larger project in two laboratories of the University of Würzburg, Germany. The Ethics Committee of the Institute of Psychology at the authors’ institution approved the study materials and procedures beforehand. The experiment included additional psychophysiological and subjective measurements for further analyses that are not reported here (Supplement S3).

Participants were recruited online and completed a questionnaire of screening questions and pre-measures two to three weeks prior to the laboratory experiment (time between measurements: $M = 18.22$ days, $SD = 8.58$). We screened for exclusion criteria concerning their mental and physical health (including use of prescription drugs), sufficient level of language proficiency (B2) and attentive responding (by a control question and overall response time). Of the 144 eligible persons that we invited to individual laboratory sessions, 103 participated, and we analyzed 100. The sessions had a mean duration of 50 min.

After giving their informed consent, participants were seated in front of a PC and equipped with noise-canceling headphones. They answered a short questionnaire that assessed sociodemographic data and details relevant to the physiological measures. Then, they were randomly assigned to listen to one of the two story versions while the screen showed a neutral animation of the narrator’s voice. Fifty-eight persons (39 of them women; age: $M = 24.07$ years, $SD = 7.06$; 53 students) listened to the single valence story, forty-two persons (33 women; age: $M = 22.05$ years, $SD = 5.18$; 40 students) listened to

the shifting valence story. They rated their experienced transportation, emotional reactions to the three story parts, and beliefs about dropping out of studies per questionnaire immediately after listening to the story in the mentioned order.

Results and discussion

Manipulation check

We conducted a two-fold manipulation check to confirm whether, overall, the shifting story version induced shifts in valence and dominant emotions and the positive story version did not. A repeated-measures ANOVA confirmed shifts in self-reported valence from positive to negative to positive in participants of the shift condition, $F(2,123) = 60.00$, $p < .001$, $\eta^2 = .49$ (see Table 1). The dominant emotion of these participants changed from happiness ($M = 4.00$, $SE = 0.20$) to sadness ($M = 3.21$, $SE = 0.25$) to happiness ($M = 5.69$, $SE = 0.21$). For the positive story version, we found a significant and continuously positive change in valence, $F(2,171) = 32.87$, $p < .001$, $\eta^2 = .28$, and happiness as the constant dominant emotion. Its mean intensity increased from 3.83 (0.17) to 4.02 (0.22) to 5.62 (0.21); see Table 1 and Supplement S4).

Hypothesis testing

We first examined whether the story versions affected post-message beliefs under the assumption of equal pre-message beliefs and sample sizes by including pre-message beliefs as a covariate and using weighted effect coding for story version (shifting valence: 1, single valence: -0.72 ; e.g., Cohen et al., 2003). Prior beliefs are known to be a strong predictor of later beliefs. Therefore, we included pre-message beliefs as a covariate in the analyses to control for their effects. The weighted effect coding of the experimental groups (shifting story version vs. positive story version), in turn, corrected for the potentially biasing influence of different subsample sizes on our estimates. In a second step, we expanded the model by examining single moderator effects of event-congruent valence and transportation, before testing a combined moderation model (Figure 1). Descriptive statistics and intercorrelations of all continuous variables are given in Table 2.

Hypothesis 1 predicted that participants who listened to the shifting-valence story would express stronger beliefs in positive effects of dropping out of later-stage studies than participants who listened to the single-valence story. We tested this hypothesis in a model with pre-message beliefs (covariate) and story version (single predictor). Pre-message beliefs were z -standardized to avoid non-essential multicollinearity. Story version significantly affected post-message beliefs, $B = -0.12$, $SE_B = 0.06$, $p = .034$, $\Delta R^2 = .010$ (compared to null model), indicating that people who listened to the single valence story showed stronger story-consistent beliefs than people who listened to the shifting story (Table 3, Model 1). Descriptive statistics showed that story-consistent beliefs increased in participants who listened to the positive story version (pre: $M = 4.84$, $SE_M = 0.12$; post: $M = 5.06$, $SE_M = 0.12$), whereas they remained high for those who listened to the shifting story version (pre: $M = 5.09$, $SE_M = 0.14$; post: $M = 5.10$, $SE_M = 0.17$). Thus, the results contradict Hypothesis 1 and instead indicate a stronger persuasive effect of the continuously positive story version (Figure 2).

Table 1. Manipulation check of Experiment 1.

	Beginning	Middle	End	η^2
Shift ($n = 42$)				
Valence	0.45 (0.14)	-0.62 (0.18)	1.83 (0.15)	0.49***
Happiness	4.00 (0.20)	2.69 (0.24)	5.69 (0.21)	
Sadness	2.17 (0.22)	3.21 (0.25)	1.29 (0.11)	
No Shift ($n = 58$)				
Valence	0.47 (0.14)	0.81 (0.16)	2.02 (0.13)	0.28***
Happiness	3.83 (0.17)	4.02 (0.22)	5.62 (0.21)	
Sadness	2.22 (0.19)	2.53 (0.21)	1.29 (0.09)	

Note. Reported are means and standard errors.

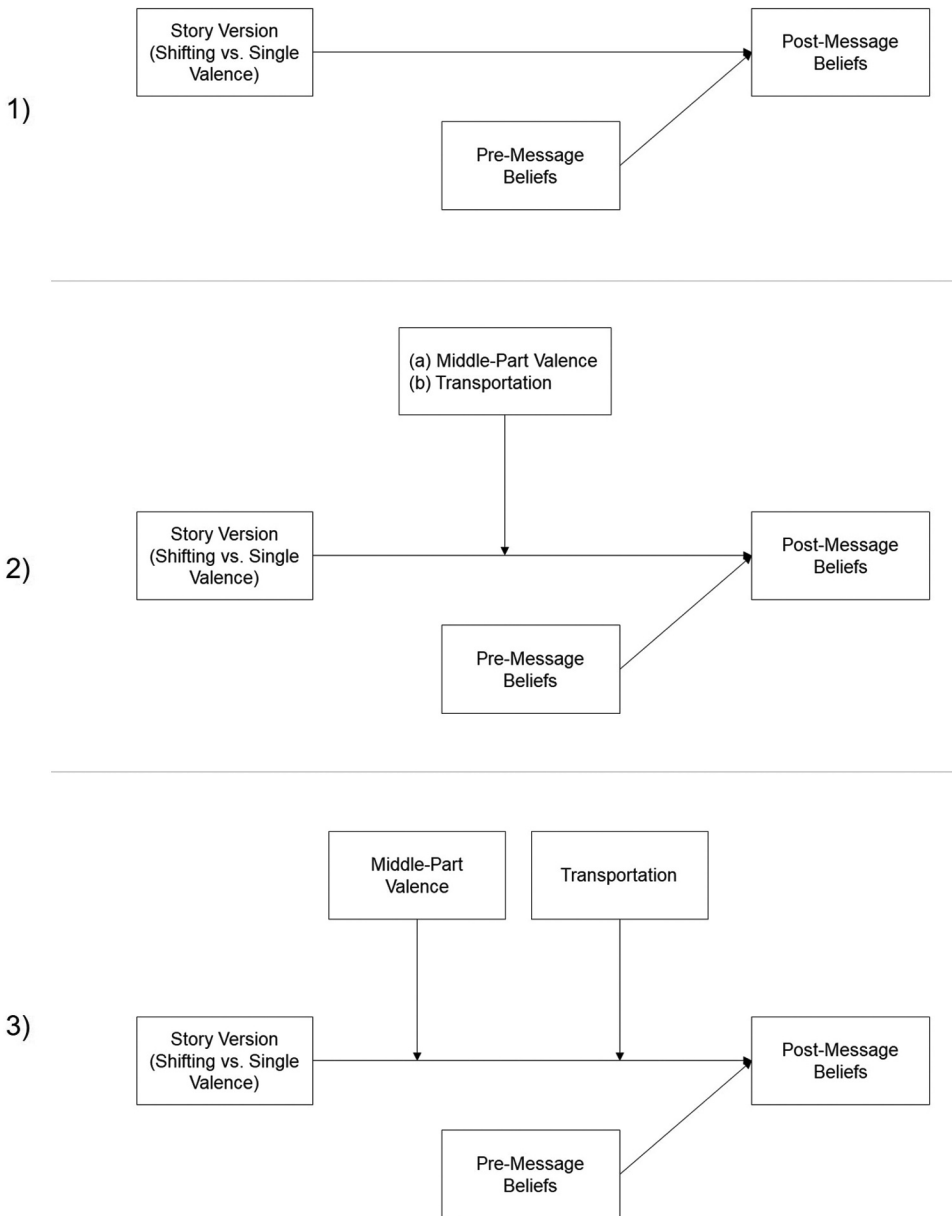


Figure 1. Schematic models of hierarchical regression analyses step 1 to 3. *Note.* Model 1: regression of post-message beliefs on story version beliefs with pre-message beliefs as covariate; Model 2: added moderator and interaction with story version (parallel models a: middle-part valence, b: transportation); Model 3: double moderation.

Hypothesis 2 predicted a moderating effect of event-congruent valence on story-consistent beliefs. The ratings of the manipulated middle story parts were used as a representative predictor. In the shifting-valence story, negative valence is congruent to the storyline, contrary to positive valence in the single-valence story. According to Hypothesis 2, the more congruent individual experiences are to the storyline, the stronger the persuasive effect should be. We tested this assumption in a model that included middle-part valence and its interaction term with story version (with valence ratings z -standardized) in addition to story version and pre-message beliefs. In line with our prediction, we found a significant interaction effect, $B = -0.14$, $SE_B = 0.07$, $p = .028$, $\Delta R^2 = .010$ (Table 3, Model 2a). Simple slope analyses showed that

Table 2. Means, standard deviations, and intercorrelations of variables of Experiment 1.

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1 Story Version (Single vs. Shifting Valence) ^a	0.00	0.86						
2 Middle-Part Valence	0.21	1.38	-.514**					
3 Transportation	5.40	1.00	.058	.049				
4 Story Version X Middle-Part Valence ^b	-0.44	0.74	-.192*	.069	-.073			
5 Story Version X Transportation ^b	0.05	0.84	.019	-.064	-.057	.068		
6 Pre-Message Beliefs (Covariate)	4.95	0.89	.138	.017	.162	.085	-.068	
7 Post-Message Beliefs (Dependent Variable)	5.07	1.01	.021	.030	.255**	-.002	.057	.852**

Note. *N* = 100.

^aWeighted effect coding (single valence story = -0.72, shifting valence story = 1), ^b Middle-Part Valence and Transportation were *z*-standardized for computing the interaction terms.

*** *p* < .001, ** *p* < .01, * *p* < .05 (one-tailed).

Table 3. Summary of hierarchical regression analyses in Experiment 1.

	Post-Message Beliefs		
	<i>B</i>	<i>SE_B</i>	ΔR^2
<i>Model 1</i>			
Intercept (<i>B</i> ₀)	5.07***	0.05	
Pre-Message Beliefs ^a	0.87***	0.05	
Story Version (Single vs. Shifting Valence) ^b	-0.12*	0.06	.010
<i>Model 2a</i>			
Intercept (<i>B</i> ₀)	5.01***	0.06	
Pre-Message Beliefs ^a	0.89***	0.05	
Story Version (Single vs. Shifting Valence) ^b	-0.18*	0.07	
Middle-Part Valence ^a	-0.06	0.06	
Story Version X Middle-Part Valence ^a	-0.14*	0.07	.010
<i>Model 2b</i>			
Intercept (<i>B</i> ₀)	5.07***	0.05	
Pre-Message Beliefs ^a	0.86***	0.05	
Story Version (Single vs. Shifting Valence) ^b	-0.13*	0.06	
Transportation ^a	0.13*	0.05	.015
Story Version X Transportation ^a	0.15**	0.06	.016
<i>Model 3</i>			
Intercept (<i>B</i> ₀)	5.01***	0.06	
Pre-Message Beliefs ^a	0.88***	0.05	
Story Version (Single vs. Shifting Valence) ^b	-0.19**	0.07	
Middle-Part Valence ^a	-0.06	0.06	
Transportation ^a	0.13**	0.05	
Story Version X Middle-Part Valence ^a	-0.14*	0.07	.010
Story Version X Transportation ^a	0.16**	0.06	.020

Note. Model fit: Model 1: $R^2 = .74$, $F(2,97) = 134.43$, $p < .001$; Model 2a: $R^2 = .75$, $F(4,95) = 69.98$, $p < .001$; Model 2b: $R^2 = .77$, $F(4,95) = 77.50$, $p < .001$; Model 3: $R^2 = .78$, $F(6,93) = 54.15$, $p < .001$.

^a*z*-standardized. ^b Weighted effect-coded (single valence story = -0.72, shifting valence story = 1).

*** *p* < .001, ** *p* < .01, * *p* < .05 (one-tailed).

more negative valence was associated with stronger story-consistent beliefs of participants who listened to the shifting-valence story ($B = -0.23$, $SE_B = 0.10$, $p = .017$, $\Delta R^2 = .028$; Figure 3). This effect is in line with the congruency hypothesis. Valence ratings had no effect on post-message beliefs of participants who listened to the single-valence story ($B = 0.05$, $SE_B = 0.08$, $p = .272$). In other words, valence, whether story-consistent or not, had no effect on the beliefs of participants who listened to the positive story. This pattern of results provides partial support for Hypothesis 2.

Hypothesis 3 predicted a general effect of transportation in strengthening story-consistent beliefs, and Hypothesis 4 predicted the shifting-valence story to boost the persuasion-enhancing effect of transportation. We tested these hypotheses in a model that instead of middle-part valence and its interaction with story version included transportation and its interaction with story version (with transportation *z*-standardized), again, in addition to the main effects of story version and pre-message beliefs. In line with Hypothesis 3, transportation predicted post-

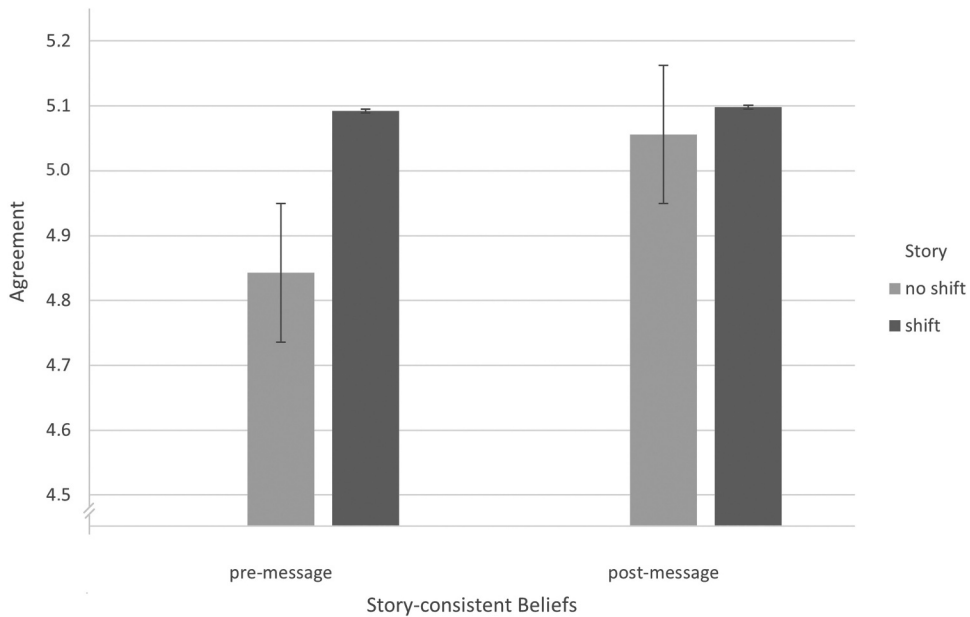


Figure 2. Change of story-consistent beliefs in Experiment 1. *Note.* Error bars represent standard errors.

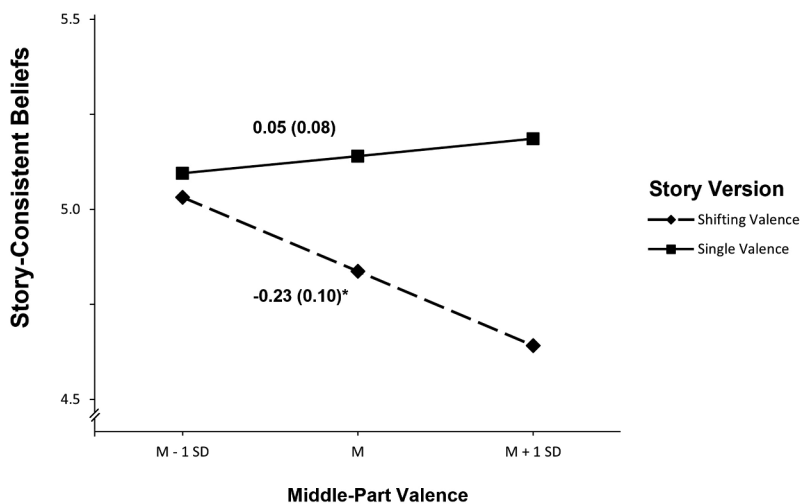


Figure 3. Effect of middle-part valence on post-message beliefs in Experiment 1. *Note.* Separate simple slope analyses of the interaction effect found in Model 2a.

message beliefs as a single predictor, $B = 0.13$, $SE_B = 0.05$, $p = .006$, $\Delta R^2 = .015$ (Table 3, Model 2b). Additionally, we found a significant interaction of story version and transportation, $B = 0.15$, $SE_B = 0.06$, $p = .007$, $\Delta R^2 = .016$. Consecutive simple slope analyses revealed that higher transportation was associated with stronger story-consistent beliefs of participants who listened to the shifting-valence story ($B = 0.28$, $SE_B = 0.08$, $p < .001$, $\Delta R^2 = .058$; Figure 4). Transportation had no effect on post-message beliefs of participants who listened to the single-valence story ($B = 0.03$, $SE_B = 0.07$, $p = .305$). Participants who experienced high transportation reported stronger story-consistent beliefs after listening to the shifting-valence story than participants who listened to the single-valence story. The effect of transportation on post-

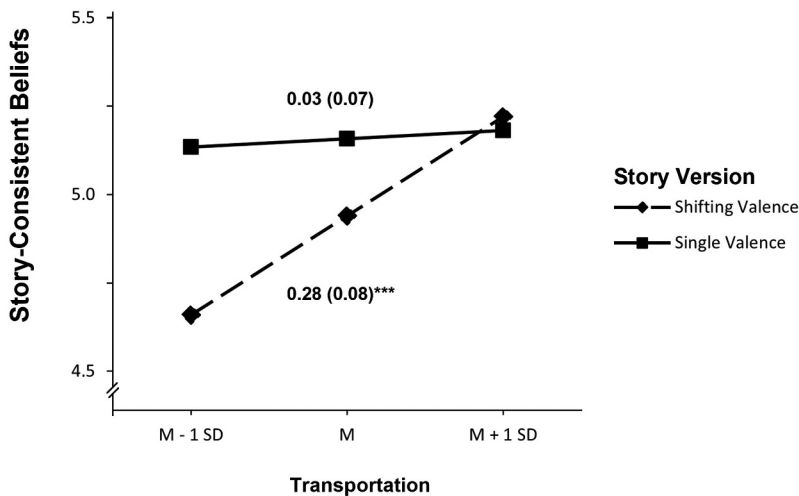


Figure 4. Effect of transportation on post-message beliefs in Experiment 1. *Note.* Separate simple slope analyses of the interaction effect found in Model 2b.

message beliefs was therefore only evident for the shifting story version, which supports Hypothesis 4 but not Hypothesis 3.

Subsequently, we found no correlation between middle-part valence and transportation per se and estimated an additive moderation model that included pre-message beliefs, story version, middle-part valence, transportation, and their respective interactions with story version (Table 3, Model 3). Indeed, the moderating effects of middle-part valence and transportation were both significant when included in the same model (story version and middle-part valence: $B = -0.14$, $SE_B = 0.07$, $p = .022$, $\Delta R^2 = .010$; story version and transportation: $B = 0.16$, $SE_B = 0.06$, $p = .005$, $\Delta R^2 = .020$).

Experiment 2

In Experiment 2, we tested the same hypotheses as in Experiment 1 but used a different narrative that told a story about a care assistant robot. We created a shifting and a continuously positive story version by including either a negative or a positive middle part event in a storyline parallel to the one conveying the persuasive message information.

Method

Participants and sample size requirements

Sample size considerations were the same as in Experiment 1, with an aspired sample of 100 participants. A total of 116 adults participated in the laboratory study for course credit or a financial reward. The data of 2 participants were excluded from the final sample due to disruptions during the experiment (one fire alarm and one participant was not feeling well and aborted the trial), a third participant failed the attention check. Additionally, the data of 5 participants were excluded as outliers from the final sample (for distribution and outlier analyses, see Supplement S5). The remaining 108 adults (82 women) were 22.29 years old on average ($SD = 3.92$ years) and predominantly university students ($n = 100$). The procedure was identical to Experiment 1.

The story and manipulation of the narrative arc

Participants listened via headphones to one of two versions of a story about a care assistant robot (1408 words, 9:04 min duration). The versions were written by a professional assisting writer and revised to

fit the manipulation criteria of the experiments. The same professional male narrator that recorded the stories for Experiment 1 recorded the audio versions.

Again, the stories shared an identical beginning and ending. Their middle parts differed in an emotional event for the protagonist, an elderly lady named Maria. This event, however, is unrelated to the story message about the care assistant robot. The story's exposition explains that Maria lives alone and is occasionally visited by Sophie, a nurse who is taking care of her. It is shortly before Christmas when Sophie is accompanied by PAL, a care assistant robot. PAL relieves Sophie of some of her tasks and allows her to dedicate more time to socialize with Maria. In the shifting story version, Maria then receives an upsetting phone call from her daughter, who cancels her and her family's visit for Christmas. In the positive story version, Maria's daughter calls to confirm her and her family's Christmas visiting plans. Both versions end happy with Sophie having more time for Maria and ultimately inviting her to her yearly Christmas party, therefore sending an affirming message for the use of care assistant robots.

Measures

Transportation. As in Experiment 1, we measured transportation using the German version of the Transportation Scale–Short Form (Appel et al., 2015). The two items assessing the imagery of characters referred to Maria and Sophie instead (Cronbach's $\alpha = .86$).

Subjective valence. Again, participants were asked to think back to each story part and rate their experience of valence on the SAM scale (Bradley & Lang, 1994), and we used standardized cues for each story part that fit both versions (e.g., for the middle part: “Maria and her daughter talk about the upcoming Christmas visit on the phone,” see Appendix B).

Emotional intensity. Participants rated the experienced intensity of the same six basic emotions for each part of the story on the same scale as in Experiment 1.

Belief measures. The story addressed the topic of using care assistant robots to support professional caretakers and lighten some of their tasks. We created eight items to assess recipients' beliefs toward care assistant robots (e.g., “The expected benefits of robots in care outweigh the potential risks.” Cronbach's $\alpha_{pre} = .94$, $\alpha_{post} = .94$). Participants indicated their agreement with the statements, just like before, on a 7-point response scale, ranging from 1 (not at all) to 7 (very much). A complete list of items can be found in Supplement S6.

Procedure

As in Experiment 1, participants were recruited online and completed the preliminary questionnaire two to three weeks prior to the laboratory experiment (time between measurements: $M = 17.58$ days, $SD = 8.11$). Of the 152 eligible persons that we invited to individual laboratory sessions, 116 participated, and we analyzed data from 108 participants. The length and procedure of the experimental sessions were identical to Experiment 1. Fifty-eight participants (40 women, age: $M = 22.48$ years, $SD = 4.13$; 55 students) listened to the single valence story, 50 participants (42 women, age: $M = 22.06$ years, $SD = 3.68$; 45 students) listened to the shifting valence story.

Results and discussion

Manipulation check

We conducted the same two-fold manipulation check as in Experiment 1. A repeated-measures ANOVA confirmed shifts in self-reported valence from positive to neutral to positive in participants of the shift condition, $F(2,147) = 6.06$, $p = .003$, $\eta^2 = .08$ (see Table 4). Sadness significantly increased in the middle part (beginning: $M = 1.94$, $SE = 0.17$; middle: $M = 3.28$, $SE = 0.28$) and decreased at the end ($M = 2.28$, $SE = 0.22$). In contrast, happiness did not change significantly from the beginning ($M = 4.42$, $SE = 0.17$) to middle part of the story ($M = 3.83$, $SE = 0.29$) but increased at the end

Table 4. Manipulation check of Experiment 2.

	Beginning	Middle	End	η^2
Shift ($n = 50$)				
Valence	0.88 (0.17)	0.26 (0.25)	1.24 (0.17)	0.08**
Happiness	4.42 (0.17)	3.86 (0.29)	5.44 (0.20)	
Sadness	1.94 (0.17)	3.28 (0.28)	2.28 (0.22)	
No Shift ($n = 58$)				
Valence	0.84 (0.15)	1.43 (0.14)	1.50 (0.13)	0.07**
Happiness	4.36 (0.16)	5.16 (0.21)	5.36 (0.21)	
Sadness	1.62 (0.12)	1.52 (0.13)	1.24 (0.07)	

Note. Reported are means and standard errors.

($M = 5.44$, $SE = 0.20$). In the positive story version, we found a significant increase in valence, $F(2,171) = 6.62$, $p = .002$, $\eta^2 = .07$. Valence and happiness increased predominantly in the middle part and remained high at the end of the story. Happiness remained the dominant emotion. Its mean intensity increased from 4.36 (0.16) to 5.16 (0.21) to 5.36 (0.21); see Table 4 and Supplement S7).

Hypothesis testing

We used the same analysis procedures as in Experiment 1 (Figure 1). Descriptive statistics and intercorrelations of all continuous variables are given in Table 5.

According to Hypothesis 1, participants who listened to the shifting-valence story would express stronger beliefs in benefits of care assistant robots than participants who listened to the single-valence story. In the model testing this assumption, pre-message beliefs were again included as a covariate (z -standardized) and story version was coded with weighted effect coding to account for the difference in sample sizes (shifting valence: 1, single valence: -0.86 ; e.g., Cohen et al., 2003). Consistent with findings in Experiment 1, story version had an effect of post-message beliefs, $B = -0.11$, $SE_B = 0.06$, $p = .026$, $\Delta R^2 = .007$, such that people who listened to the single valence story showed stronger story-consistent beliefs after message exposure than people who listened to the shifting story (Figure 5 and Table 6, Model 1). Descriptive statistics showed that the agreement to story-consistent beliefs increased by a mean of 0.7 in participants who listened to the positive story version (pre: $M = 4.22$, $SE_M = 0.18$; post: $M = 4.92$, $SE_M = 0.16$), and increased by 0.5 in those who listened to the shifting story version (pre: $M = 4.13$, $SE_M = 0.20$; post: $M = 4.65$, $SE_M = 0.20$). Thus, like the results of Experiment 1, the results of Experiment 2 contradict Hypothesis 1 and indicate a stronger persuasive effect of the continuously positive story version.

Testing Hypothesis 2 with an identical model as in Experiment 1, we found a significant interaction effect between story version and middle-part valence, $B = -0.13$, $SE_B = 0.07$, $p = .034$, $\Delta R^2 = .006$ (Table 6, Model 2a). Simple slope analyses showed that more positive valence was associated with stronger story-consistent beliefs of participants who listened to the single-valence story ($B = 0.17$, $SE_B = 0.10$, $p = .056$, $\Delta R^2 = .008$; Figure 6). Valence ratings had no effect on post-message beliefs of participants who listened to the shifting-valence story ($B = -0.05$, $SE_B = 0.07$, $p = .260$). Valence,

Table 5. Means, standard deviations, and intercorrelations of variables in Experiment 2.

	M	SD	1	2	3	4	5	6
1 Story Version (Single vs. Shifting Valence) ^a	0.00	0.34						
2 Middle-Part Valence	0.89	1.54	-.380**					
3 Transportation	5.05	1.17	.085	-.040				
4 Story Version X Middle-Part Valence ^b	-0.35	0.89	-.059	.471**	-.233**			
5 Story Version X Transportation ^b	0.08	0.93	.013	-.223*	.107	-.042		
6 Pre-Message Beliefs (Covariate)	4.18	1.37	-.032	-.075	.113	.093	.105	
7 Post-Message Beliefs (Dependent Variable)	4.80	1.28	-.110	-.024	.167*	.031	.147	.904**

Note. $N = 108$.

^aWeighted effect coding (single valence story = -0.86 , shifting valence story = 1), ^bMiddle-Part Valence and Transportation were z -standardized for computing the interaction terms.

*** $p < .001$, ** $p < .01$, * $p < .05$ (one-tailed).

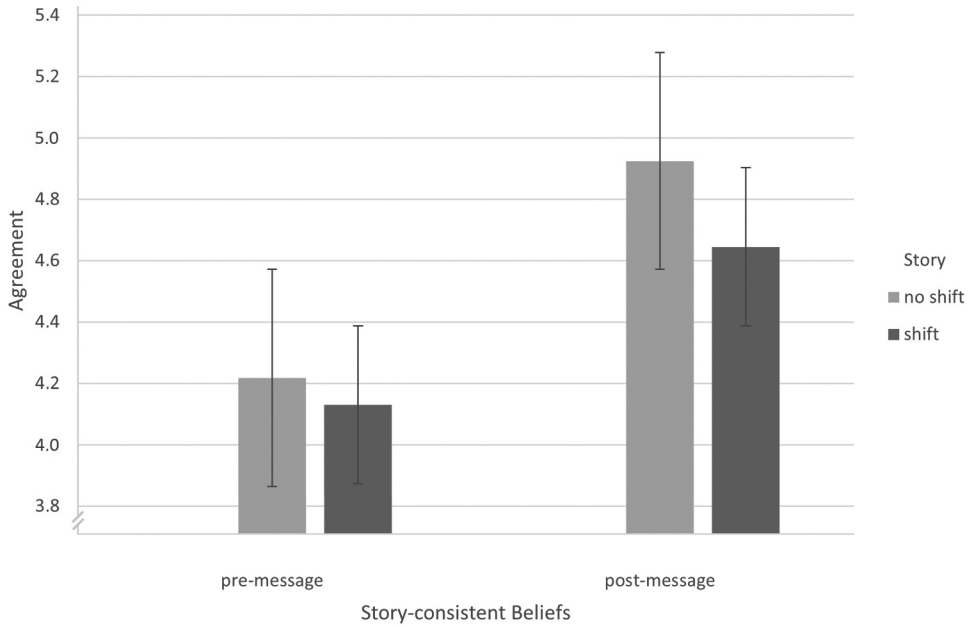


Figure 5. Change of story-consistent beliefs in Experiment 2. *Note.* Error bars represent standard errors.

Table 6. Summary of hierarchical regression analyses in Experiment 2.

	Post-Message Beliefs		
	<i>B</i>	<i>SE_B</i>	ΔR^2
<i>Model 1</i>			
Intercept (B_0)	4.80***	0.05	
Pre-Message Beliefs ^a	1.15***	0.05	
Story Version (Single vs. Shifting Valence) ^b	-0.11*	0.06	.007
<i>Model 2a</i>			
Intercept (B_0)	4.75***	0.06	
Pre-Message Beliefs ^a	1.17***	0.05	
Story Version (Single vs. Shifting Valence) ^b	-0.09	0.06	
Middle-Part Valence ^a	0.08	0.07	
Story Version X Middle-Part Valence ^a	-0.13*	0.07	.006
<i>Model 2b</i>			
Intercept (B_0)	4.79***	0.05	
Pre-Message Beliefs ^a	1.13***	0.05	
Story Version (Single vs. Shifting Valence) ^b	-0.12*	0.06	
Transportation ^a	0.09*	0.05	.005
Story Version X Transportation ^a	0.07	0.06	.002
<i>Model 3</i>			
Intercept (B_0)	4.75***	0.06	
Pre-Message Beliefs ^a	1.15***	0.05	
Story Version (Single vs. Shifting Valence) ^b	-0.09	0.06	
Middle-Part Valence ^a	0.09	0.07	
Transportation ^a	0.06	0.06	
Story Version X Middle-Part Valence ^a	-0.11	0.07	.004
Story Version X Transportation ^a	0.08	0.06	.003

Note. Model fit: Model 1: $R^2 = .82$, $F(2,105) = 245.02$, $p < .001$; Model 2a: $R^2 = .83$, $F(4,103) = 125.16$, $p < .001$; Model 2b: $R^2 = .83$, $F(4,103) = 126.66$, $p < .001$; Model 3: $R^2 = .84$, $F(6,101) = 85.58$, $p < .001$.

^az-standardized. ^bWeighted effect-coded (single valence story = -0.86, shifting valence story = 1).

*** $p < .001$, ** $p < .01$, * $p < .05$ (one-tailed).

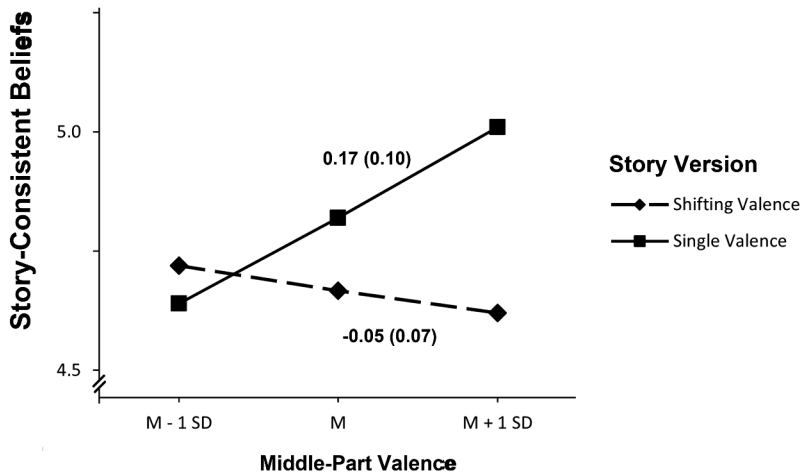


Figure 6. Effect of middle-part valence on post-message beliefs in Experiment 2. *Note.* Separate simple slope analyses of the interaction effect found in Model 2a.

therefore, had no effect on the beliefs of participants who listened to the shifting story. In contrast, a more positive subjective experience of the positive middle part of the single-valence story (i.e., an event-congruent emotional experience) was associated with stronger story-consistent beliefs. This is, again, supports Hypothesis 2 partially.

Consistent with the findings of Experiment 1, transportation had a main effect on post-message beliefs in Model 2b supporting Hypothesis 3, $B = 0.09$, $SE_B = 0.05$, $p = .049$, $\Delta R^2 = .005$. However, the interaction of story version and transportation was not significant, $B = 0.07$, $SE_B = 0.06$, $p = .123$ (Table 6). Thus, Hypothesis 4 was not supported in Experiment 2. Rather, the persuasion-enhancing effect of transportation seemed to be present in both experimental conditions. However, exploratory simple slope analyses showed that it was significant in the shifting-valence group ($B = 0.14$, $SE_B = 0.08$, $p = .037$, $\Delta R^2 = .011$) but not in the single-valence group ($B = 0.03$, $SE_B = 0.07$, $p = .224$), a pattern which is consistent with Experiment 1 (Figure 7).

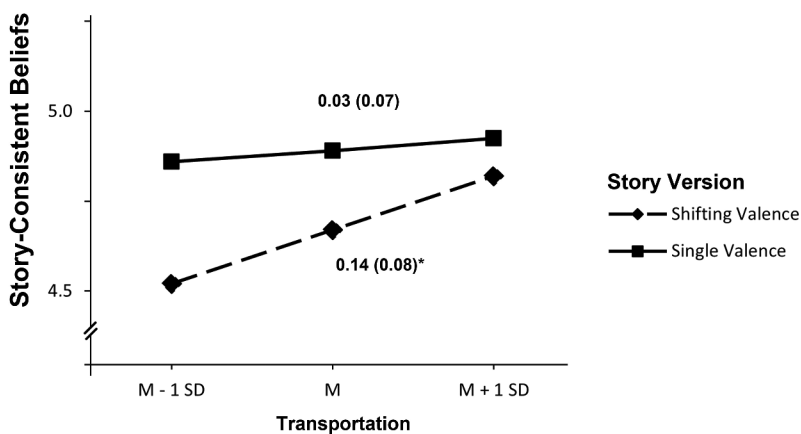


Figure 7. Effect of transportation on post-message beliefs in Experiment 2. *Note.* Separate exploratory simple slope analyses of the interaction in Model 2b.

Just like in Experiment 1, we found no correlation between middle-part valence and transportation, and estimated an additive moderation model (Table 2b, Model 3). In contrast to Experiment 1, however, we could not establish significant additive moderation effects (story version and middle-part valence: $B = -0.11$, $SE_B = 0.07$, $p = .061$; story version and transportation: $B = 0.08$, $SE_B = 0.06$, $p = .076$).

General discussion

The research presented here contributes to our understanding of the persuasive effects of stories with emotional shifts against a background of mixed previous findings. To clarify results in terms of possible confounds regarding the causal role of emotional shifts for persuasion-enhancing effects, we used two kinds of manipulations that kept the versions identical in length, event structure, and message: one using the protagonist's event interpretation (Experiment 1) and another one using a parallel storyline (Experiment 2). We used a pre-post design that, by including the subjects' pre-message beliefs, controlled for this influence on our dependent variable (post-message beliefs), and allowed the detection of small effects, contributing to robust analyses overall.

In both experiments, the continuously positive story version was more persuasive, i.e. led to a stronger increase of story-consistent beliefs, than the emotionally shifting story version. Both experiments also supported the well-established persuasion-enhancing effect of transportation.

Somewhat mixed, but nevertheless coherent, are our findings on the role of recipients' emotional congruency to the story for narrative persuasion in emotionally shifting versus continuous stories. In both experiments, we found a persuasion-enhancing effect of congruency of subjects' emotional experience with the respective story. In Experiment 1 we found this effect exclusively in the emotionally shifting version, whereas in Experiment 2, we found it exclusively in the continuously positive version. In both experiments, the persuasion-promoting effect of transportation was stronger in the emotionally shifting version than in the continuously positive version.

Overall, our results showed that both story versions – with and without emotional shifts – were persuasive in both experiments. They align with recent findings showing that short stories with a consistent progression of a single emotion can be as or even more persuasive than comparable stories with emotional shifts (McAllister, 2020; Ophir et al., 2021; Sangalang et al., 2019). Ophir et al. (2021) suggest that the overall length of the stories might play a role. It is conceivable that an effect of emotional shifts occurs only in stories above a certain length. The studies used in previous research used stories ranging in length from approximately 500 to 1000 words (McAllister, 2020, pp. 563–577 words; Ophir et al., 2021: approx. 1000 words). In comparison, the stories used in our studies were 1454 words in Experiment 1 and 1408 words in Experiment 2, which can be read in approximately 10 minutes. Ophir et al. (2021) suggest that the reading experience may be different for stories closer to the length of feature films or novels.

One possible explanation for the advantage of short, positive narratives could be their general processing fluency. It has been consistently shown that positive affect is associated with higher processing fluency (see, e.g., Topolinski & Strack, 2009; Trent et al., 2013). The higher processing fluency, in turn, serves as a cue that individuals use to make judgments about truth. Consequently, positive affect in short narratives may contribute to the persuasiveness of the stories by affectively reinforcing implicit assumptions (e.g., Reber & Unkelbach, 2010). However, it is important to consider that lengthy narratives that follow a steady positive progression may, over time, may be experienced as unnatural, implausible or boring. Here, the persuasive effect of emotionally shifting stories could potentially be enhanced. Thus, future studies exploring this direction and comparing emotionally shifting short stories with purely negative counterparts would be valuable contributions to the field.

Our results support the Emotional Flow Hypothesis insofar as the persuasion-enhancing effect of transportation was only evident in the shifting story versions. Interestingly, the persuasiveness of the continuously positive story versions did not seem to rely on this enhancing effect – at least not in the relatively short stories used in the present experiments. Petty and Briñol (2015) describe how emotions can affect the persuasive process at different points in time. In unconstrained elaboration conditions,

that is, in situations in which subjects, in our case, listen to a story without specific instructions or artificially increased cognitive load (e.g., by distractors), Petty and Briñol (2015) find that emotions can influence the amount of thinking about the implied message. They serve as crucial cues to think more (e.g., sadness) or less (e.g., happiness) carefully about the persuasive message. Therefore, elaboration could have ultimately differed between the story versions. In the continuously happy story, recipients should not allocate many resources to critical elaboration of the story message because they are primarily motivated to avoid processing information that threatens their emotional state, such as counterarguments to the implied message. In the shifting story version, however, a shift to and from a negative emotion could relatively facilitate message processing relatively speaking (i.e., increase the allocation of cognitive resources to the story relative to the continuously positive story version; see Clayton et al., 2021). Therefore, the persuasive effect may be more dependent on the moderating level of participants' transportation. We encourage future research to further investigate the possible processes underlying the pattern of results in our studies.

Regarding the effect of emotional event congruency, the results are mixed concerning event-congruency as facilitator of narrative persuasion (Appel et al., 2019). In Experiment 1, the persuasion-enhancing effect of emotional event-congruency was found exclusively in the group that listened to the emotionally shifting story. In Experiment 2, it was only found in the group that listened to the continuously positive story. Slightly different strategies were used to manipulate the emotional trajectories of stories in Experiment 1 and 2. In Experiment 1, we manipulated the emotional trajectory by the protagonist's different interpretation of the exact same events in both versions. In Experiment 2, we also kept the events of the storyline containing the persuasive message identical and manipulated the emotional trajectory by a parallel storyline.

On the one hand, our findings could indicate that the persuasion-enhancing effect of event-congruent emotions can emerge independently of the emotional course of the story. On the other hand, it is conceivable that the two slightly different types of manipulation had different effects on the event-congruency effect. For example, in Experiment 1, a substantially more positive evaluation of the protagonist's interpretation of the critical life event might become unplausible or inauthentic at some point, whereas a substantially more negative evaluation might still be plausible. In Experiment 2, on the other hand, the negative development might have been more predictable than the positive one. Further research is needed to clarify the boundaries of emotional event-congruency in narrative persuasion.

Limitations and future directions

Despite the clear and consistent results regarding the effects of emotional shifts on persuasion, the present experiments suffer from certain limitations. The first limitation to note is that we examined only one topic per manipulation method and per experiment. To further confirm our findings, our experiments should be replicated. We encourage the use of stories that use the same or similar types of emotional trajectory manipulation to broaden our understanding of the boundary conditions for event-congruency. We also encourage the use of other carefully designed story manipulations to maximize comparability between emotionally shifting and non-shifting versions.

Another noteworthy limitation is that our story manipulation mainly affected shifts in the experience of happiness and sadness. As Petty and Briñol (2015) have noted, these basic emotions are associated with differences in the amount of thinking about the persuasive message. However, stories inducing other emotions might affect persuasive outcomes differently. For example, inducing a change in valence using anger would presumably have more variable effects, as anger evokes less or more thinking about the message, depending on the dominant form of appraisal (more cognitive or more affective, see Stavraki et al., 2021).

Third, our measures raise an unresolved issue regarding the variability in participants' congruency of emotion experiences. Fluctuations in attention and comprehension difficulties may be influential factors that need to be addressed in a different manner in future research. In the pretest, we implemented a filter based on participants' overall response time in the online questionnaire and included a content-related

question at the end of the story to mitigate potential inattention. However, more precise measures are needed to definitely rule out an influence of these factors. Similarly, our choice of the Transportation Scale Short Form (Appel et al., 2015) was motivated by the goal of using a valid but also concise measure. However, alternative measures of narrative engagement, such as Busselle and Bilandzic's (2009) Narrative Engagement Scale, which includes a factor of basic comprehension, may provide a more comprehensive assessment.

Fourth, we should note that the experimental groups differed in age and gender characteristics. We included both variables as predictors in our models to control for their potential influence, but they did not contribute significantly to the total variance explained and thus did not change the overall results. We therefore refrained from including them in final models, in the interest of keeping these models parsimonious.

Finally, the differences that we found between the story versions were statistically significant, but small. In practical terms, therefore, our results have primarily explanatory value for underlying processes of persuasion by short stories. We were able to show under which circumstances it may be worthwhile to focus especially on continuously positive story progressions for persuasive purposes.

Conclusion

A diverse body of research has investigated the extent that emotional shifts in stories contribute to narrative persuasion. Although many of these studies point to a persuasive advantage of stories with emotional shifts (Alam & So, 2020; Carrera et al., 2008, 2010; Fitzgerald et al., 2019; Ray et al., 2019; Rossiter & Thornton, 2004), the present work aligns with findings that underscore a possible disadvantage of emotionally shifting stories compared to stories without emotional shifts (McAllister, 2020; Ophir et al., 2021; Sangalang et al., 2019).

Using two different manipulations, we found that continuously positive stories are more persuasive than those with a negative middle part. Furthermore, the moderating role of transportation was only observed in the shifting story versions, while no such effect was found in the non-shifting counterparts. In both shifting and non-shifting stories, a higher congruency of the audience's emotional experience to the emotions in the story seems to strengthen its persuasive effect. Overall, our results suggest the existence of boundary conditions in the presumed effects of Nabi and Green's (2015) emotional flow hypothesis.

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Data availability statement

Data and syntax code for the analyses reported in the present paper as well as the experimental material and other supplementary information are available at the repository of the Open Science Framework (<https://osf.io/kdn25/>).

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Appendices

Appendix A. Story Synopses Experiment 1

Story part and cue	Story version	
	Shifting valence story (sad middle part)	Single valence story (happy middle part)
Exposition Simon's internship is finished. His parents invite him over for dinner.	After an internship, Simon enjoys his newfound free time by meeting a friend at the park. He expresses doubts about his studies. 490 words/03:04 min	After an internship, Simon enjoys his newfound free time by meeting a friend at the park. He expresses doubts about his studies. 490 words/03:04 min
Critical event Simon visits his parents. He reflects on his parents' decision to move to China.	Simon's parents announce their plan to emigrate to another country. Simon feels sad and left behind. He reflects on the relationship to his parents and how it has shaped his path of life so far. 649 words/04:04 min	Simon's parents, who he always looked up to, announce their plan to take their chance and emigrate to another country. Simon realizes that they may set a good example for him by doing so. 649 words/04:04 min
Happy ending Ten years later: Simon reflects on his decision.	Ten years later, Simon is happy with his decision to switch to another field of studies that better fits his own interests. 311 words/02:01 min Total word count: 1454 words Reading time of audio recording: 9:09 minutes	Ten years later, Simon is happy with his decision to switch to another field of studies that better fits his own interests. 311 words/02:01 min

Appendix B. Story Synopses Experiment 2

Story part and cue	Story version	
	Shifting valence story (sad middle part)	Single valence story (happy middle part)
Exposition Just before Christmas: Maria's nurse Sophie has a new care assistant robot.	Maria is looking forward to Christmas because her daughter, son-in-law, and grandchild will visit her for the first time. Her caregiver Sophie has a new care assistant robot. 766 words/5:04 min	Maria is looking forward to Christmas because her daughter, son-in-law, and grandchild will visit her for the first time. Her caregiver Sophie has a new care assistant robot. 766 words/5:04 min
Critical event Maria and her daughter talk about the upcoming Christmas visit on the phone.	The family's Christmas visit is canceled. Maria is very disheartened. 241 words/1:29 min	Maria and her daughter sort out the final details of the visit. Maria is joyfully excited. 241 words/1:29 min
Happy ending The night before Christmas, Sophie checks in with Maria one more time.	Now that Sophie has the robot, she has more time for Maria and the two form a bond. Spontaneously, Sophie invites Maria to her Christmas party. 401 words/2:32 min Total word count: 1408 words Reading time of audio recording: 9:05 minutes	Now that Sophie has the robot, she has more time for Maria and the two form a bond. Spontaneously, Sophie invites Maria to her Christmas party. 401 words/2:32 min