

Dispelling Fears and Myths of Organ Donation: How Narratives That Include Information Reduce Ambivalence and Reactance

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Combining research in narrative persuasion with the theory of planned behavior, this article investigates the effects of integrating information addressing specific fears and myths about organ donation in narratives on individuals' reactance, attitudinal ambivalence, and organ donation intentions. The results of a 2 (with vs. without information) × 2 (control factor text) between-subjects online experiment ($N = 308$) show that embedding relevant information (a) did not impede narrative engagement, (b) successfully reduced attitudinal ambivalence, and (c) ultimately increased organ donation intentions. This article illustrates the theoretical and empirical relevance of ambivalence and reactance as valuable constructs for both researchers and practitioners in health communication.

Keywords: narrative persuasion, reactance, ambivalence, theory of planned behavior, organ donation

Despite the fact that most people hold positive attitudes toward the issue of organ donation, few have signed an organ donor card (Morgan, Miller, & Arasaratnam, 2003). This is particularly alarming since the need for organs increases while organ donation rates decrease (Eurotransplant International Foundation, 2014). Prevalent reasons for the reluctance to donate are, among others, a lack of knowledge (Watzke, Schmidt, & Stander, 2013), including misinformation concerning brain death or religious norms (Horton & Horton, 1990), which in turn lead to specific fears and myths about organ donation (Newton, 2011; Sanner, 1994), such as the fear of losing body integrity (Morgan et al., 2003). In short, people's reluctance can be traced to "noncognitive beliefs" (Morgan, Stephenson, Harrison, Afifi, & Long, 2008) and their experience of affective ambivalence (van den Berg, Manstead, van der Pligt, & Wigboldus, 2005).

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Date submitted: 2016–11–30

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Therefore, alleviating people's fears grounded in specific false beliefs through accurate information should result in higher organ donation-related behavioral intentions (de Leeuw, Valois, Ajzen, & Schmidt, 2015). However, health messages on organ donation possess two peculiarities that further complicate persuasion: First, these messages deal with practices applied after death, making it impossible to aim at personal health benefits (Morgan, 2009). Second, humans try to avoid thinking about death (Pyszczynski, Greenberg, & Solomon, 1999); organ donation messages, however, inevitably confront the reader or viewer with his or her own mortality and are therefore likely to reinforce ambivalence and boost defensive reactions such as reactance.

In the face of these peculiarities of organ donation (messages) and in line with the entertainment education approach (Moyer-Gusé, 2008; Singhal, Cody, Rogers, & Sabido, 2004), we suggest that narratives might be an effective means to convey the relevant information countering specific fears and myths, because narratives have not only been shown to positively influence organ donation attitudes and intentions (Morgan, Movius, & Cody, 2009), but are also less likely to cause selective avoidance and evoke reactance (Green, 2006; Moyer-Gusé & Nabi, 2010). At the same time, integrating information into narratives might undermine their specific persuasive potential by reducing engagement with them. Therefore, we investigate whether narratives that include information targeting fears and myths of organ donation are more effective in increasing organ donation intentions than narratives without this information. We examine this question within the framework of the theory of planned behavior (TPB; Ajzen, 1991), which has proven useful for explaining health behavior and intentions in general (e.g., Hagger, Chan, Protogerou, & Chatzisarantis, 2016) and organ donation message effects in particular (e.g., Godin, Bélanger-Gravel, Gagné, & Blondeau, 2008; Hyde & White, 2009; Powpaka, 1996). Combining theoretical approaches to narrative persuasion and the TPB seems to intuitively suggest itself, as narrative persuasion research has been investigating outcomes such as attitudes and intentions that are at the core of the theory of planned behavior. A specific contribution of our study is the focus on the often neglected negative influences of ambivalence and reactance as mediators of the effects of narratives with information targeting fears and myths of organ donation compared with narratives without information on TPB constructs perceived behavioral control, attitudes, social norms, and, ultimately, organ donation-related behavioral intentions.

Narratives as a Means to Promote Organ Donation

Narratives have been shown to exert a positive influence on health-related attitudes, intentions, and health behavior (Hinyard & Kreuter, 2007). Recent meta-analytic evidence has confirmed the general persuasive potential of narrative messages, with narratives positively influencing attitudes and intentions as well as beliefs and even actual behaviors (Braddock & Dillard, 2016; F. Shen & Han, 2014). Considering the specific characteristics of organ donation messages, we propose that there are several reasons why narratives might be especially suitable to promote organ donation: First, narrative health messages have been shown to facilitate exposure to messages that might otherwise be avoided (Green, 2006). Second, narratives commonly depict characters that might function as positive role models (Moyer-Gusé, 2008), which can promote the decision to become an organ donor (Morgan et al., 2009). Third, narratives appeal to both cognitions and emotions and evoke the positive immersive state of narrative engagement that facilitates persuasion (Bilandzic & Busselle, 2013). Being narratively engaged or transported, both

cognitions and emotions are focused on the story (transportation imagery model; Green & Brock, 2000, 2002). As a result, recipients likely lack the cognitive resources and motivation to reject the story and will more easily accept its persuasive content (Deighton, Romer, & McQueen, 1989; Green & Brock, 2000). Supporting these arguments, narrative engagement has been shown to exert a positive influence on health-related outcomes (Green, 2006) and to positively influence the decision to become an organ donor (Morgan et al., 2009). Fourth—and mostly due to narrative engagement—narratives effectively reduce negative reactions toward health messages such as reactance (Moyer-Gusé & Nabi, 2010; L. Shen, 2010).

The purposeful integration of health information in entertainment content is the defining feature of the entertainment education approach (Moyer-Gusé, 2008; Singhal et al., 2004). Empirical evidence suggests that health information in general (F. Shen & Han, 2014) and information on organ donation specifically (Morgan et al., 2009) is indeed learned from narrative entertainment content. In their model of organ donation willingness (later extended by Morgan, Miller, & Arasaratnam, 2002), Horton and Horton (1991) propose that, generally, exposure to information amplifies knowledge, thereby reducing existing barriers and consequently influencing attitudes toward organ donation. Several studies support these assumptions (e.g., Morgan et al., 2003, 2008). Narratives that include information addressing fears and myths related to organ donation should thus be particularly effective because they might facilitate exposure to information, thereby removing potential knowledge insecurities. The results of a study by Khalil and Rintamaki (2014) offer initial support suggesting that the insertion of accurate information in a television drama can lead to positive discussions about organ donation and myth rejection.

However, integrating relevant information within narratives might also risk their potential success in promoting organ donation by lowering narrative engagement. Research has shown that combining narratives with (statistical) information is more effective than narratives without this information (Allen et al., 2000; Betsch, Renkewitz, & Haase, 2013) and that information embedded in narratives is more easily accepted (Appel, 2008; Green & Brock, 2000). Nevertheless, there is a lack of studies systematically investigating the integration of health information in entertainment narratives and its effect on audience involvement. In one of the rare studies, Quintero Johnson, Harrison, and Quick (2013) manipulated the extent to which health information was central to the storyline. Highly integrated health information was recalled significantly more than less integrated health information, yet none of these conditions differed from the information-only condition. Concerning the effects of health information integration on audience involvement, the results remain inconclusive. Thus, it remains an open question whether embedding health information in narratives has a detrimental effect on narrative engagement. Our study therefore compares narratives that include information targeting fears and myths with narratives that do not include this information, and we address this matter in our research question:

RQ: Do narratives on organ donation differ in the extent of narrative engagement they evoke when they do or do not contain information on fears and myths about organ donation?

Reducing Reactance and Ambivalence Through Narratives

Reducing Reactance

Reactance is a psychological state elicited by perceived threats to an individual's personal freedom (Brehm & Brehm, 1981). It is operationalized as anger and negative cognition and aims to restore one's personal freedom (Dillard & Shen, 2005; Quick & Stephenson, 2007; Rains & Turner, 2007). Health messages, especially those containing an explicit appeal, are likely to provoke reactance, which might negatively influence attitudes and thus have a negative impact on behavioral intentions (Dillard & Shen, 2005). Because reactance constitutes a major barrier to health persuasion, it is important to identify ways to prevent or reduce it (Quick, Shen, & Dillard, 2013). This is even more relevant in the context of organ donation, where messages are likely to evoke defensive reactions (Reinhart & Anker, 2012; Sanner, 1994).

We perceive narratives to be an effective means to reduce reactance (L. Shen, 2010) by disguising the persuasive intent of the message (Moyer-Gusé, 2008; Moyer-Gusé & Nabi, 2010) and by evoking the state of narrative engagement (Green, 2006). In this immersive state, negative cognitions and emotions—the main components of reactance—should be hindered because the reader's mental capacities are bound to the story and the reader is motivated to sustain the enjoyable experience (Green, 2006). Reinhart and Anker (2012) have shown that narrative engagement reduces reactance toward organ donation messages. We therefore postulate the following hypothesis:

H1: Narrative engagement is negatively related to reactance.

Reducing Attitudinal Ambivalence

Ambivalence, the concurrency of negative and positive affective, cognitive, and/or conative evaluations of an object (Conner & Armitage, 2008), has been shown to impede the formation of positive attitudes, behavioral intentions, and behavior (Armitage & Conner, 2000; Jonas, Diehl, & Brömer, 1997). At the same time, however, attitudes that are both positive and negative—as is often the case with attitudes toward organ donation (e.g., Sanner, 2006)—can be more easily influenced by persuasive messages (Armitage & Conner, 2000). In the context of organ donation, individuals' attitudinal ambivalence is often affective and grounded in specific fears, such as not receiving adequate medical support, brain death not actually meaning death, or illegal organ trade (Cohen, 2010; Morgan et al., 2008). Because many of these fears can be traced back to a lack of knowledge, we argue that narratives that include information addressing these fears are an effective means to reduce attitudinal ambivalence. The information included in the story should be highly accessible, because it is intertwined with the storyline (see Green & Donahue, 2011). Readers should thus be willing to accept the information provided in the story (Morgan et al., 2009; Moyer-Gusé & Nabi, 2010), process the information intensively (Jonas et al., 1997), and consequently become less ambivalent toward the issue of organ donation:

H2: Narratives on organ donation that include information addressing specific fears and myths reduce attitudinal ambivalence more than narratives without this information.

Combining Narrative Persuasion With the Theory of Planned Behavior

According to the theory of planned behavior, subjective norms, attitudes, and perceived behavioral control positively influence behavioral intentions (Ajzen, 1991). The TPB, as a theory “to account for behaviors that are not under an individual’s complete volitional control” (Hyde & White, 2009, p. 882), has successfully been applied to the topic of organ donation before: TPB variables have been demonstrated to influence the decision to become an organ donor, with subjective norm, perceived behavioral control, and attitudes emerging as predictors of organ donation intentions (Godin et al., 2008; Hyde & White, 2009; Powpaka, 1996). Narrative persuasion research, in turn, suggests that narratives are likely to impact TPB variables. This article brings together the theoretical approaches to narrative persuasion and the TPB to explain how intentions about organ donation can be influenced by the use of narratives in general, and more specifically by narratives containing information that addresses specific fears and myths about organ donation.

Subjective Norms

The topic of organ donation places a special emphasis on other people, because the decision to become a donor aims at helping others, and organ donation is often decided by the donor’s close relatives (Hyde & White, 2009). It has been demonstrated that group norms generally constitute a crucial factor in health interventions (Janz et al., 1996) and play a particularly important role in the formation of organ donation behavior (Morgan et al., 2002, 2003). Persuasive messages that address social norms and others’ normative expectations—which are equivalent to the subjective norm in Ajzen’s TPB—should thus be effective in bringing about intentional and behavioral changes (Hinyard & Kreuter, 2007). Narratives have been shown to influence recipients’ norms mostly through the presentation of acting characters (Green, 2006). Specifically, narratives that depict characters as positive role models of normative behavior should increase their audiences’ respective subjective norms when they are highly engaged with those characters (Moyer-Gusé, 2008). A study by Moran, Murphy, Frank, and Baezconde-Garbanati (2013) confirms that narratives can indeed influence health-related social norms.

Perceived Behavioral Control

Perceived behavioral control is defined as the belief of being capable of carrying out a behavior, and it has been shown to be highly relevant in the formation of behavioral intentions (Armitage & Conner, 2001). A lack of perceived behavioral control is one of the hindrances to organ donation decisions (Horton & Horton, 1990), and perceived behavioral control has been shown to be a predictor of organ donation intentions (Bae & Kang, 2008; Brug, van Vugt, van den Borne, Brouwers, & van Hooff, 2000). Research has demonstrated that narratives positively influence a concept that is frequently equated with perceived behavioral control—that is, self-efficacy (e.g., Falzcon, Radel, Cantor, & d’Arripe-Longueville, 2015). Again, taking the perspective of a character and sharing his or her experience of organ donation can be assumed to promote a viewer’s perceived behavioral control (Moyer-Gusé, 2008). Additionally, empirical evidence indicates that the impression of being well informed exerts a positive influence on perceived behavioral control, which in turn leads to higher behavioral intentions (Ajzen, Joyce, Sheikh, & Cote, 2011). Thus, narratives containing relevant information might amplify the feeling of being informed on the

topic of organ donation, thereby reducing ambivalence and leading to increased perceived behavioral control.

Attitudes

Several empirical studies have demonstrated that attitudes toward organ donation are influenced by entertainment education and narrative content (Bae & Kang, 2008; Morgan et al., 2009) and, in general, positively influence people's intentions to donate their organs (Cossé & Weisenberger, 2000; Horton & Horton, 1990; Morgan et al., 2008). In addition, reducing attitudinal ambivalence by inserting relevant information in narratives should contribute to the formation of more positive attitudes toward organ donation.

Condensing the assumptions made in this article so far, we add to our hypotheses that the reduction of both reactance through narrative engagement and ambivalence through integrated information should result in positive effects on attitudes, subjective norm, and perceived behavioral control. For ambivalence, these mediating relationships are easily deduced from the discussion. However, for reactance, the relationship is not as straightforward. In the context of organ donation as a high-involvement and high-threat issue, reactance is easily aroused by health messages, preventing attention to and processing of those messages and likely causing negative influences on message outcomes. Therefore, reactance can be assumed to be the most relevant mediator between narrative engagement and TPB constructs.

H3a: Reactance mediates the relationships between narrative engagement and subjective norm, perceived behavioral control, and attitudes toward organ donation.

H3b: Ambivalence mediates the relationships between narratives that include information (vs. those that do not include information) and subjective norm, perceived behavioral control, and attitudes toward organ donation.

In line with TPB, we postulate the following hypothesis regarding the role of subjective norm, perceived behavioral control, and attitudes toward organ donation for behavioral intentions:

H4: A higher subjective norm, greater perceived behavioral control, and more positive attitudes toward organ donation lead to greater intentions to sign an organ donor card and become an organ donor.

Method

To test our hypotheses, we conducted an online experiment with a 2 (narratives) × 2 (with vs. without information) between-subjects design. Participants were randomly assigned to one of two narratives either with or without additional information about organ donation. After reading the text, they were asked to answer a questionnaire containing the relevant constructs.

Sample

Participants were recruited online through social network sites such as Facebook and via e-mail and were asked to forward the link to the study to other people. They were compensated with the chance to enter a lottery to win one of three Amazon vouchers (20, 10, and 5 euros). A total of 388 people participated in the study. After data cleaning (incomplete data, response patterns, reading times shorter than 90 seconds and longer than 15 minutes), the final sample consists of 308 participants, who are mostly women (68.8%). Their ages range from 17 to 82, with a mean age of 35.3 years ($SD = 17.5$).

Stimulus Material

As stimulus material we used two third-person fictional testimonial-like narratives about organ donation that focused on donors and their family members. We employed two narratives to counterbalance gender effects and add to the generalizability of the results. The narratives were written by one of the authors, and each told the story of a protagonist (one male, one female) who donated his or her organs after a tragic accident that resulted in brain death. The protagonists are introduced, before being involved in an accident that leads to brain death. Robert is hit by a car when he is on his way to a picnic with his girlfriend; Luisa falls down stairs while playing with her younger sister. The stories continue with the parents being informed about the accident, their arrival at the hospital, the confrontation with the brain death diagnosis, and the decision about organ donation. Both protagonists possessed an organ donation card, so after a short discussion with the doctors, their organs are donated. The stories end after the funerals, with both parents reflecting on the decision again.

To create the versions with information, we relied on research that has shown information at causal points of the story to be more memorable (e.g., Dahlstrom, 2010), and we added information addressing specific fears and myths about organ donation at different causal locations throughout the second part of the stories. These fears and myths had been identified by representative surveys, such as those by the U.S. Department of Health and Human Services (2013) and the German Federal Center for Health Education (2014), as important reasons preventing people from making an informed decision about organ donation. The information integrated in the narratives consisted of (1) the definition of the brain death diagnosis that (2) is based on a number of medical tests, (3) information about stricter laws ensuring a correct process from organ donor to recipient implemented in Germany in 2012, (4) the possibility of limiting donation to certain organs, (5) the fact that organ donation will not interfere with funeral organization, and (6) that relatives can inquire about the success of the donation. The original narratives are 258 words shorter than the narratives with integrated information (Robert's story: 1,411 vs. 1,669 words; Luisa's story: 1,712 vs. 1,960 words).¹

¹ The stimulus material is available from the first author upon request.

Measures

All items were measured on 7-point Likert-type scales ranging from 1 (*do not agree at all*) to 7 (*completely agree*), unless otherwise noted. All multi-item measures reached good reliability and were combined into mean indices.

Narrative Engagement. To measure participants' overall involvement with the narratives, we used Busselle and Bilandzic's (2009) scale of narrative engagement. The scale consists of 12 items representing how well participants understand and focus their attention on a story as well as how strongly they feel present in the story world and emotionally engage with the story and its characters (Cronbach's $\alpha = .82$, $M = 5.20$, $SD = 0.96$).

Reactance. Participants' extent of reactance to the presented narratives was assessed with four items that were adapted from Dillard and Shen (2005) and focus on the cognitive component of reactance—that is, the perceived threat of freedom. We made this decision, because it is hard, if not impossible, to assess anger as the emotional part of reactance when it is indistinguishable from an emotional reaction within narrative processing (Moyer-Gusé & Nabi, 2010). An example item is "The text tried to manipulate me" ($\alpha = .84$, $M = 2.66$, $SD = 1.52$).

Ambivalence. An ambivalence scale of six items (Zhao & Cai, 2008) was adapted to measure the amount of ambivalence participants experience concerning organ donation. An example item is "I have equally strong reasons for and against organ donation" ($\alpha = .89$, $M = 3.17$, $SD = 1.71$).

Organ Donation Attitude. The attitude participants have about organ donation was measured with six items from Morgan and Miller (2002). Participants were asked how much they agree or disagree with statements such as "I view organ donation as a benefit to humanity" ($\alpha = .73$, $M = 5.30$, $SD = 1.13$).

Subjective Norm. Two items were created to assess participants' subjective norm. The items specifically asked participants whether people who are important to them would support them (1) filling out a donor card or (2) wanting to donate organs ($r = .82$, $p < .001$, $M = 5.01$, $SD = 1.58$). The items are "Most people who are important to me would support it if I wanted to donate my organs" and "Most people who are important to me would support it if I signed an organ donor card."

Perceived Behavioral Control. Eight items were adapted from Ajzen et al. (2011) to the context of organ donation to assess participants' perceived behavioral control concerning organ donation and signing a donor card. Example items are "The decision for or against organ donation is entirely up to me" and "It will be difficult for me to sign a donor card" ($\alpha = .89$, $M = 5.51$, $SD = 1.33$).

Behavioral Intentions. Three items measured participants' behavioral intentions: "When I die, I want to donate my organs if possible"; "When I die, I do not want to be an organ donor" (reverse-scored); and "I will note down my decision on an organ donor card" ($\alpha = .80$, $M = 5.55$, $SD = 1.57$).

Controls. Our analysis controlled for participants' *gender* and *age*, whether they already have a *donor card* (56.8%), whether they have *experience with organ donation* as recipients or knowing organ donors or recipients (25%), and whether their *religion* (1.6%) or an *illness* (5.2%) prevents them from being an organ donor.

Results

In a first step, we tested for any interaction effects between the two narratives and the information factor on narrative engagement, reactance, and ambivalence using a multivariate analysis of covariance with the above-mentioned controls. No multivariate, $F(3, 296) = 0.49, p = .69$, or univariate interactions—engagement: $F(1, 298) = 0.02, p = .96$; reactance: $F(1, 298) = 0.40, p = .53$; ambivalence: $F(1, 298) = 1.17, p = .28$ —emerged, so we pooled the data of both texts for the following analyses.

Before testing the proposed mediating relationships, we examined the main effects of our experimental manipulation on organ donation intentions as well as on perceived behavioral control, subjective norms, and attitudes using univariate analyses of covariance (see Table 1).

Table 1. Main Effects of Information Integration on TPB Variables.

Dependent variables	Information		F(1, 298)	Partial η^2
	No	Yes		
	M (SE)	M (SE)		
Attitude	5.21 (.08)	5.41 (.09)	2.93	.01
Subjective norm	4.90 (.11)	5.08 (.12)	1.30	.00
Behavioral control	5.35 (.07)	5.61 (.08)	6.23*	.02
Intentions	5.37 (.10)	5.73 (.10)	7.06**	.02

Note. Control variables are participants' age and gender, the possession of a signed donor card, prior experience with organ donation, and illness or religion as obstacles.
* $p < .05$. ** $p < .01$.

The results show a significant main effect of information integration on organ donation intentions, $F(1, 298) = 7.06, p < .01$, partial $\eta^2 = .02$. Specifically, narratives with information targeting specific fears and myths about organ donation resulted in higher organ donation intentions (estimated mean [EM] = 5.73, SE = .10) than narratives without this information (EM = 5.37, SE = .10). Similarly, narratives including information led to higher perceptions of behavioral control (EM = 5.61, SE = .08) than those without (EM = 5.35, SE = .07), $F(1, 298) = 6.23, p < .05$, partial $\eta^2 = .02$. However, there was no effect of information integration on attitudes, $F(1, 298) = 2.93, p = .09$, partial $\eta^2 = .01$, or on subjective norms, $F(1, 298) = 1.30, p = .26$, partial $\eta^2 = .00$.

We tested our proposed mediating relationships as a path model with *Amos 22* (Arbuckle, 2013), entering a partial correlation matrix controlled for our control variables. Direct and indirect effects were tested for significance using bootstrapping (10,000 samples, 95% bias-corrected confidence intervals [CIs]). A partial correlation matrix of all variables in the model, including their means and standard deviations, can be found in Table 2.

Table 2. Descriptive Statistics and Partial Correlation Matrix of Variables in the Model.

	<i>M (SD)</i>	Info	1	2	3	4	5	6
1. Narrative engagement	5.21 (0.95)	-.03	1.00					
2. Reactance	2.79 (1.55)	.04	-.14*	1.00				
3. Ambivalence	3.16 (1.73)	-.12*	.04	.09	1.00			
4. Attitude	5.31 (1.10)	.10	.20**	-.18**	-.24**	1.00		
5. Subjective norm	5.00 (1.56)	.06	.05	-.17**	-.26**	.36**	1.00	
6. Behavioral control	5.48 (1.33)	.14*	.02	-.20**	-.57**	.32**	.41**	1.00
7. Intentions	5.55 (1.55)	.15**	.11	-.31**	-.33**	.46**	.40**	.54**

Note. Control variables are participants' age and gender, the possession of a signed donor card, prior experience with organ donation, and illness or religion as obstacles.

* $p < .05$. ** $p < .01$.

Our proposed model achieved an acceptable model fit, $\chi^2 = 36.81$, $df = 13$, $p < .000$; comparative fit index (CFI) = 0.94, root mean square of approximation (RMSEA) = 0.08, 90% CI [0.05, 0.11], standardized root mean square residual (SRMR) = 0.06. After the inspection of modification indices, we added two additional paths from narrative engagement to organ donation attitude, $b = .20$, $SE = .06$, 95% CI [.086, .320], $p = .001$, $\beta = .17$, and from reactance to behavioral intentions, $b = -.17$, $SE = .05$, 95% CI [-.255, -.078], $p < .001$, $\beta = -.17$. Both paths make theoretical sense in light of the existing research and literature: Many studies have demonstrated narrative engagement's positive effects on attitudes, which are unlikely to be fully mediated by reactance only, because, among other reasons, reduced counterarguing or identification have been identified as mechanisms of narrative persuasion as well (e.g., Igartua, 2010; Niederdeppe, Shapiro, & Porticella, 2011). Concerning reactance, one of the ways that people restore their threatened freedom is to engage in behavior that is directly opposite to the behavior promoted in the message (Brehm & Brehm, 1981; Ringold, 2002). Additionally considering the approach motivation underlying anger (Dillard & Seo, 2013), it seems reasonable to expect a direct effect from reactance to behavioral intentions. The resulting model including these two paths achieved a very good fit (see Figure 1), $\chi^2 = 12.12$, $df = 11$, $p = .355$; CFI = 1.00, RMSEA = 0.02, 90% CI [0.00, 0.06], SRMR = 0.03.²

² To prove the superiority of our proposed model beyond theoretical considerations only, we tested two alternative models: (1) attitudes, subjective norm, and perceived behavioral control predicting ambivalence and reactance instead of the other way around, and (2) all five variables as equal, correlated predictors of organ donation intentions. None of these two models achieved acceptable fit. Model 1: $\chi^2 = 113.80$, $df = 9$, $p = .000$; CFI = 0.76, RMSEA = 0.20, 90% CI [0.16, 0.23], SRMR = 0.10; Model 2: $\chi^2 = 142.29$, $df = 9$, $p = .000$; CFI = 0.69, RMSEA = 0.22, 90% CI [0.19, 0.25], SRMR = 0.13. Specifically for Model 1, neither attitude nor subjective norm were significant predictors of ambivalence and reactance. Modification indices indicated all three TPB variables to be direct predictors of intentions. Concerning Model 2, modification indices indicate a better fit with ambivalence and reactance indirectly predicting

Our research question asked whether the integration of relevant information about organ donation into narratives will reduce participants' narrative engagement. The results show no significant effect of integrated information on narrative engagement, $b = -.05$, $SE = .11$, 95% CI $[-.259, .162]$, $p = .648$, $\beta = -.03$. Of course, this is not a statistical proof that the addition of information in general has no influence on narrative engagement, but it does show that in our study integrating relevant information about organ donation in a narrative does not undermine the specific potential of using narratives.

Consistently, as we proposed in H1, the more participants were engaged in the narratives, the less reactance they experienced, $b = -.23$, $SE = .09$, 95% CI $[-.409, -.047]$, $p = .016$, $\beta = -.14$. Moreover, narratives with integrated information reduced ambivalence compared with narratives without the specific information on fears and myths (H2), $b = -.40$, $SE = .20$, 95% CI $[-.785, -.020]$, $p = .039$, $\beta = -.12$.

As hypothesized in H3a, reactance mediated the effect of narrative engagement on organ donation attitude, subjective norm, and perceived behavioral control (indirect effects—attitude: $.023$, $SE = .013$, 95% CI $[.004, .057]$, $p = .015$; norm: $.035$, $SE = .020$, 95% CI $[.006, .084]$, $p = .013$; control: $.031$, $SE = .016$, 95% CI $[.007, .069]$, $p = .010$), while the effect of integrated information on attitude, subjective norm, and behavioral control was mediated by ambivalence (H3b; indirect effects—attitude: $.060$, $SE = .033$, 95% CI $[.006, .140]$, $p = .029$, norm: $.089$, $SE = .049$, 95% CI $[.009, .206]$, $p = .029$; control: $.171$, $SE = .086$, 95% CI $[.011, .349]$, $p = .037$).

Corresponding to the theory of planned behavior, a more positive organ donation attitude, a higher subjective norm, and perceived behavioral control lead to greater behavioral intentions (attitude: $b = .38$, $SE = .07$, 95% CI $[.242, .510]$, $p < .001$, $\beta = .27$; norm: $b = .12$, $SE = .05$, 95% CI $[.024, .218]$, $p = .016$, $\beta = .12$; control: $b = .44$, $SE = .06$, 95% CI $[.323, .549]$, $p < .001$, $\beta = .37$) and mediated the effects of ambivalence and reactance on behavioral intentions (indirect effects—ambivalence: $-.268$, $SE = .034$, 95% CI $[-.336, -.204]$, $p < .001$; reactance: $-.112$, $SE = .029$, 95% CI $[-.174, -.058]$, $p < .001$).

Overall, the main effect of information integration on organ donation intentions was fully mediated by the significant path through ambivalence and the three TPB constructs ($b = .105$, $SE = .054$, 95% CI $[.007, .222]$, $p = .036$). The remaining direct effect was not significant ($b = .224$, $SE = .136$, 95% CI $[-.040, .490]$, $p = .096$). The same holds for its effect on perceived behavioral control, which was fully mediated by ambivalence (direct effect: $b = .179$, $SE = .117$, 95% CI $[-.053, .410]$, $p = .129$).

intentions through attitude, subjective norm, and behavioral control. Because this would eventually result in a model more or less equivalent to our proposed model, we are confident in the validity of our model.

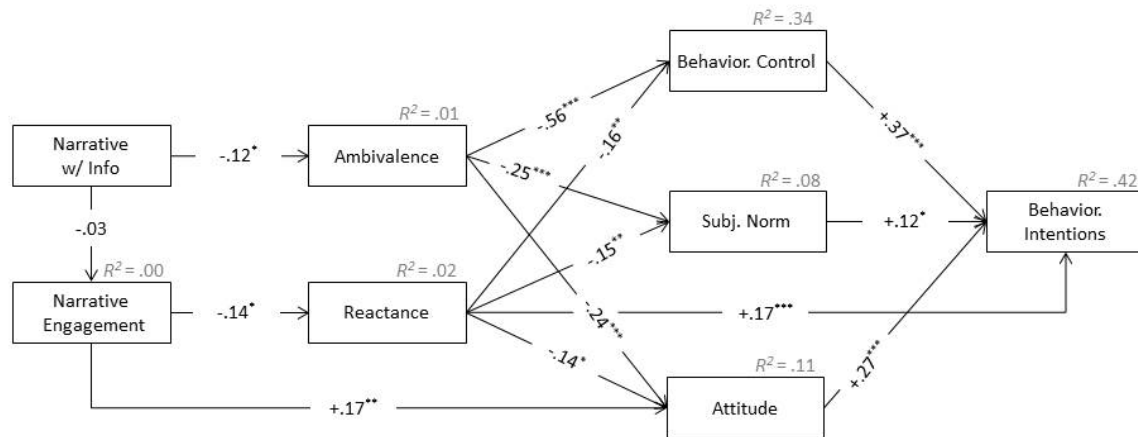


Figure 1. Path model of the effect of embedding information addressing fears and myths about organ donation on theory of planned behavior constructs through reactance and ambivalence. Control variables: age, gender, the possession of a signed donor card, prior experience with organ donation, and illness or religion as obstacles. Model fit: $\chi^2 = 12.12$, $df = 11$, $p = .355$; CFI = 1.00, RMSEA = 0.02, 90% CI [0.00, 0.06], SRMR = 0.03. Standardized coefficients reported. * $p < .05$. ** $p < .01$. * $p < .001$.**

Discussion

The aim of our study was to test whether the potential of narratives to engage an audience can be used to promote positive attitudes, subjective norms, and perceived behavioral control and, ultimately, to motivate organ donation intentions. Specifically, we examined whether integrating information that targets specific fears and myths about organ donation in a narrative can reduce attitudinal ambivalence without evoking reactance, thus positively influencing theory of planned behavior constructs.

Our research question asked whether embedding relevant information in a narrative undermines its engagement potential. Comparing participants' narrative engagement between the narratives with and without information, no significant differences emerged. People were equally engaged no matter which story they read. This means that it is possible to integrate additional information in narratives without reducing their appeal; however, there might be limits in terms of, for example, the amount of information, the kind of information, and the location of the information that can be embedded without loss. There are numerous questions in this context to be explored in future research.

Having established no differences in engagement between the two types of narratives, our results confirm earlier studies' findings (e.g., Moyer-Gusé & Nabi, 2010; L. Shen, 2010): Higher levels of narrative engagement decreased reactance (H1). Lower reactance, in turn, led to more positive attitudes, a higher subjective norm, and greater perceived behavioral control, thus mediating the positive effect of narrative engagement on these three constructs (H3a). Moreover, the narratives with integrated information targeting specific fears and myths reduced ambivalence toward organ donation compared with the narratives without information (H2). This reduced ambivalence then increased perceived behavioral control and subjective norm and had a positive influence on organ donation attitudes. Thus, H3b, ambivalence's mediating role between

the narratives with information and these three constructs, is fully supported. In line with the theory of planned behavior organ donation attitudes, subjective norm and perceived behavioral control predicted individuals' intentions to sign an organ donor card and donate their organs. Overall, our results show that narrative engagement successfully reduces reactance to a message with a highly threatening content (mortality salience). Although correlational in nature, the findings lend further confirmation to previous research on reactance in narrative persuasion (e.g., Moyer-Gusé & Nabi, 2010). More importantly, we have experimentally shown that narratives containing information specifically targeting widespread fears and myths about organ donation reduce attitudinal ambivalence compared with narratives not containing that information. As a result, there is a positive influence on attitudes, subjective norm, and perceived behavioral control, which, in concordance with TPB, predict stronger behavioral intentions.

Limitations

However, our study is not without its limitations. First, even though our sample comes from the general population, it is still a convenient sample and not representative at large. Specifically, a substantial difference exists in the fact that most of the participants had very positive attitudes toward organ donation. A very high percentage, 56.8% compared with 28% in the general German population (German Federal Center for Health Education, 2014), had already signed an organ donor card and thus were probably more knowledgeable. At the same time, this factor should have reduced our chances of finding significant effects, which renders our results even more promising. Nevertheless, it remains important to replicate our results in populations that are less informed, less positive, and more ambivalent about organ donation.

Second, the narratives used in our study were created by one of the authors. It would thus be desirable to investigate the effects of actual, professionally produced health campaign narratives. Again, this fact might have also contributed to a more conservative test of our hypotheses, because the engagement potential of professional narratives is probably higher than the ones we used. In addition, it must be noted that the narratives with and without information differed in length. We acknowledge that this might constitute a threat to internal validity; however, we are confident that the difference of about 250 words between narratives of about 1,700 words is small enough to allow a meaningful comparison. Nevertheless, a replication of our study with narratives of equal length is needed.

Third, we did not observe actual behavioral effects, but relied on measuring participants' intentions to donate organs or sign an organ donor card. Even though research has shown that intentions do predict behavior to some extent, it would be valuable to assess actual behavior following the study, thereby examining more long-term effects of the narratives.

Fourth, one might criticize that our study did not include a nonnarrative comparison to examine whether the information addressing popular fears and myths about organ donation alone can reduce ambivalence and promote organ donation. The rationale of our study was a different one, though. We did not simply conduct another narrative-versus-non-narrative comparison as many other studies have already done, with mixed results showing one or the other to be more persuasive or even results showing no difference at all (see Allen & Preiss, 1997; Zebregs, van den Putte, Neijens, & de Graaf, 2015). Rather,

our aim was to build on research that has already shown that narratives are suitable means to decrease reactance (e.g., Moyer-Gusé & Nabi, 2010; L. Shen, 2010), combine this with research findings about relevant information potentially reducing attitudinal ambivalence grounded in a lack of information (e.g., Switzer et al., 2003), and apply this to the context of organ donation, where ambivalence due to a lack of information and reactance to campaign messages are likely barriers. Admittedly, our focus was more on exploiting the potential of narratives as a means to motivate organ donation behavior and how to improve it than on testing different kinds of messages, be it audiovisual, text, and audio, or narrative and nonnarrative. Of course, showing an advantage of integrating the relevant information in narratives over integrating them in nonnarrative texts would increase the relevance of our study even further. We do not intend to imply an overall advantage of narrative over nonnarrative texts nor vice versa. It is more likely that they can both be more educational or persuasive than the other—just in different contexts and for different target groups. That said, there is still a plethora of issues that future research needs to address in terms of the conditions under which types of health messages might be successful—such as, for example, when information in narratives might be detrimental or where the limits to narratives' role in preventing reactance are. After all, our results pertain to the integration of relevant information at several, causal points of the plot of a narrative. There are many more ways of integration that might be more or less suitable in conveying different types of information beyond those specifically addressing fears and myths of organ donation. For example, weaving information into statements of characters versus third-person narration might be more effective when addressing self-efficacy. Obviously, there are many more interesting and relevant questions to be investigated.

Outlook

Overall, the strengths of our study consist in combining research in narrative persuasion with the theory of planned behavior and, more importantly, in making the rarely examined constructs of reactance and especially attitudinal ambivalence the focus of our analysis. Our results lend additional support to the theory of planned behavior as well as to the area of narrative persuasion. They also demonstrate the value of investigating defensive reactions to health messages (e.g., reactance) and common barriers to healthy behaviors (e.g., attitudinal ambivalence), thereby promoting future research including these constructs. Finally, our study adds valuable insights to the body of knowledge about organ donation messages and for organ donation campaigns.

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