Media and Communication (ISSN: 2183–2439)
2023, Volume 11, Issue 1, Pages 349–360
https://doi.org/10.17645/mac.v11i1.6028

Article

Meet Bob and Offset Your Flight: Optimising Explainer Videos to Promote Voluntary Carbon Offsetting

Anna Schorn * and Werner Wirth

Department of Communication and Media Research, University of Zurich, Switzerland

* Corresponding author (a.schorn@ikmz.uzh.ch)

Submitted: 27 July 2022 | Accepted: 16 January 2023 | Published: 27 March 2023

Abstract
In Germany, over 60% of people use YouTube as a search engine and watch explainer videos or tutorials at least occasionally. Two studies were conducted to determine how explainer videos can be optimised to promote sustainable minority behaviour such as voluntary carbon offsetting. A typical way to present information in explainer videos is by using exemplars (the "meet Bob" trope), which can change recipients' judgements of the frequency of events. When an exemplar is included, the frequency of occurrence can be estimated to be higher, even if the actual base-rate information is given. Therefore, study one (*N* = 482) tested whether an exemplar could enhance the positive effects of a dynamic descriptive social norm appeal (DSNA), prevent the backfire effects of a static minority DSNA, and examine whether there were any differences depending on the narrative perspective. In study one, we conducted a 2 (narrative perspective: first vs. third person) × 2 (DSNA: static vs. dynamic) × 2 (travel destination: Europe vs. overseas; control factor) between-subjects experiment using six self-produced explainer videos about voluntary carbon offsetting (*N* = 270). The results show that the narrative perspective, different DSNAs, and the destination had no effect on persuasive outcomes. Study two (*N* = 270) focused on social norm appeals and supplemented minority DSNAs (DSNA: static vs. dynamic vs. absent) with an injunctive social norm appeal (ISNA: present vs. absent). The results show that a majority injunctive social norm appeal can improve attitudes towards voluntary carbon offsetting and perceived effectiveness.

Keywords
exemplar; experiment; explainer video; narrative perspective; nudging; social influence; social norm appeals; sustainable behaviour; voluntary carbon offsetting

Issue
This article is part of the issue "Science Communication in the Digital Age: New Actors, Environments, and Practices" edited by Julia Metag (University of Münster), Florian Wintterlin (University of Münster), and Kira Klinger (University of Münster).

1. Introduction

Anthropogenic climate change is progressing, and the proportion of greenhouse gases in the atmosphere continues to rise (Intergovernmental Panel on Climate Change, 2021; H. Ritchie et al., 2020). As individuals and households may be responsible for up to 72% of global emissions (Eurostat, n.d.; Hertwich & Peters, 2009), changing individual consumption behaviour is a critical and contemporary ambition (Fell & Traber, 2020). Consumers drive several carbon-intensive sectors due to travel but are not directly affected by international agreements (Intergovernmental Panel on Climate Change, 2015). Thus, voluntary mitigation initiatives such as voluntary carbon offsetting (VCO) are a good way to bridge this gap until full carbon neutrality is achieved (Kobiela et al., 2020). However, while the majority approve of VCO, less than 10% of people actually engage in it (e.g., Gössling et al., 2009; Umweltbundesamt, 2022; Wulfsberg et al., 2016). This situation is typical of many sustainable behaviours; there are prevalent positive attitudes, but only a minority acts accordingly. One reason for this is that sustainable behaviour often presents a social dilemma, and people often do not benefit

directly from acting in an environmentally friendly manner (Thøgersen, 2008). At the same time, studies on VCO have shown that many people do not know what carbon offsets are, but when they are provided with relevant information, their willingness to engage increases (Babakhani et al., 2017; Denton et al., 2020; Gössling et al., 2009; Lu & Wang, 2018; Ritchie et al., 2021).

This study aimed to determine how such information could be designed to be highly persuasive. We focused on explainer videos because, on the one hand, they are increasingly being used as an information tool on YouTube for scientific topics and are frequently utilised by scientists, journalists, and activists to raise awareness of different science topics. On the other hand, they might be particularly persuasive because of their features and thus, are well suited to promote environmentally friendly behaviour (Schorn, 2022). Therefore, we conducted two studies concentrating on explainer videos applying the "meet Bob" trope, in which a fictional character serves as a behavioural model, addressing a certain problem and demonstrating a solution. Such exemplars can offer broad potential for identification and inspire behavioural change by illustrating positive results in their life evoked by call-to-action (Alam, 2021; Peter & Zerback, 2020). Stylistic devices and social norm appeals (SNAs) related to the use of such exemplars were investigated in the VCO context. SNAs have proven to be efficient in promoting sustainable majority behaviour (e.g., Rhodes et al., 2020); however, it is still not clear how they can be best applied to promote minority behaviour. Nevertheless, research indicates that they might be particularly effective in combination with exemplars such as those used in "meet Bob" explainer videos.

2. Explainer Videos

Explainer videos are short films in which abstract concepts are explained using visualisation techniques, animations, and storytelling elements, typically combined with informal, humorous voiceovers (Schorn, 2022). Explainer videos on science topics, news, and climate change represent important information tools that are increasingly being used by a broad audience (Allgaier, 2019; Frees et al., 2019; Galan et al., 2019). In Germany, 62% of the population indicate that they use YouTube at least occasionally as a search engine for finding answers to specific questions, and almost 70% watch videos on knowledge topics, explainer videos, or tutorials; these percentages are higher among young people (Koch & Bleisch, 2020). However, such videos do not just have the aim of transferring knowledge, but also often have the goal of persuading (Schorn, 2022). According to a study by Davis and León (2018), a considerable proportion of science (explainer) videos follows an agenda, particularly with regard to controversial topics such as climate change. In this case, explainer videos aim to do more than present relevant information; they attempt to persuade by raising awareness of a certain position or promoting environmentally friendly behaviour (De Lara et al., 2017).

3. The "Meet Bob" Trope

One reason why explainer videos might be particularly persuasive is the use of storytelling elements: Storytelling and informal communication style can lead to ease in processing, which in turn might enhance persuasive outcomes (Bullock et al., 2021). A typical way to present complex information in explainer videos is to tell a story using an exemplar, similar to the audience, who solves a problem. Explainer videos applying the "meet Bob" trope use fictional characters similar to the target audience to introduce a problem and then provide a solution (Findeisen et al., 2019; Najeeb, 2020). Such exemplars offer broad potential for identification and serve as behavioural models, showing positive results in the character's life from responding to a call to action (Alam, 2021). The use of exemplars has been shown to be successful in several fields in terms of influencing people's attitudes and behaviours (e.g., Bigsby et al., 2019; Rhodes et al., 2020).

Exemplars are ordinary citizens representing the general population (Peter & Zerback, 2020). They have no special expertise (e.g., carbon offset) and are unknown to the general public. Therefore, they are illustrative examples of the average in society (Beckers et al., 2018; Bigsby et al., 2019; Peter & Zerback, 2020). The advantage of applying an interchangeable, ordinary person as an exemplar is that it maximises the possibility of identification (Cohen, 2001) and generalisation (Zillmann, 1999) because the perceived social distance between most members of the general population and this exemplar is small (Hofer et al., 2021). They require little cognitive processing in comparison with abstract generalities because they represent specific cases (Rosenthal & Dahlstrom, 2019). Therefore, an exemplar is well suited for illustrating vicarious experiences for the largest possible group of people. However, in the context of explainer videos promoting sustainable behaviour, to the best of our knowledge, there have been no studies on "meet Bob" explainer videos, despite their frequent use and the potentially strong persuasive effect.

4. Narrative Perspective

In "meet Bob" explainer videos, generally, the voice-over narrator first informs the audience about the character's problem and then offers a solution, including an explanation of why this works (Alam, 2021; Najeeb, 2020; Oentoro, 2018). Typically, these exemplars do not themselves talk about their experiences, but the narrator does ("This is Bob…"). However, first-person narration could increase recipients' identification with the character, which could strengthen the persuasive impact (e.g., Cohen, 2001; Kim et al., 2020; Winterbottom et al., 2008). A recent meta-analysis concluded that a

first-person perspective could lead to better persuasive outcomes than a third-person narrative (Chen & Bell, 2021). In general, most scientific YouTube videos use the first-person perspective; however, almost one-third apply third-person narration, specifically in animated videos, including explainer videos (Munoz Morcillo et al., 2016). Therefore, we investigated whether the narrative perspective could impact persuasive outcomes of a "meet Bob" explainer video, leading to the first hypothesis:

> H1: First-person narration leads to better persuasive outcomes than third-person narration.

5. Exemplars and Social Norms

One benefit of using exemplars is that they can change recipients' judgement of the frequency of events; when an exemplar is included, the frequency of occurrence may be overestimated, even when the actual base-rate information is given (e.g., Gibson & Zillmann, 1994; Zillmann, 2006). Therefore, exemplars can play an important role in belief formation, even when contrasting statistical information is present in the same message (Rosenthal & Dahlstrom, 2019). One reason for this is that scientific consensus and probabilistic statements can be described as well as experienced; low probabilities tend to be overweighted when described as statistics but underweighted when experienced as probability information (cf. Harris et al., 2019). Thus, an experiential format such as that of a "meet Bob" video might be particularly effective at promoting VCO because an overestimation of sustainable (minority) behaviour could increase social pressure and encourage compliance (cf. Cialdini & Goldstein, 2004).

In the social norm context as well, Rhodes et al. (2020) concluded that presenting a model of behaviour or an exemplar is more effective than merely quoting statistics. Typically, when SNAs are applied, individuals are informed about the proportion of those engaging in the target behaviour (descriptive SNA, from now on DSNA) or those who approve of the target behaviour (injunctive SNA, from now on ISNA), both within a reference group (Cialdini et al., 1990, 1991). Overall, such SNAs are promising because they are subtle, low-cost, and effective in encouraging compliance (Rhodes et al., 2020; Yamin et al., 2019). Nevertheless, in the specific context of sustainable behaviour, there are very few studies combining the use of exemplars and SNAs, which do not use videos but printed information (Elgaaied-Gambier et al., 2018; He et al., 2019; Huber et al., 2018). However, Rhodes et al. (2020) concluded that SNAs might be more effective in promoting sustainable behaviour when embedded in audio-visual material than in text-based stimuli. Therefore, we explore in more detail how minority SNAs work when embedded in a "meet Bob" explainer video.

5.1. Descriptive Social Norm Appeals

According to the focus theory of normative conduct (Cialdini et al., 1991), descriptive norms refer to perceptions regarding the prevalence of a behaviour among group members (what people do). Such norms can be activated or made salient, which can increase the likelihood that individuals will behave in a norm-consistent manner. However, when the target behaviour is not prevalent (descriptive minority), SNAs run the risk of undesirable backfire effects when people learn that their (unsustainable) behaviour is actually the norm (e.g., Elgaaied-Gambier et al., 2018; Loschelder et al., 2019; Richter et al., 2018; Schultz et al., 2007; Smith et al., 2012). However, the backfire effects of minority DSNAs can be prevented not only by highlighting the minority group performing the target behaviour (static DSNA) but by presenting the behaviour as a growing trend (dynamic DSNA) that an increasing number of people are following (Mortensen et al., 2019; Sparkman & Walton, 2017). Studies examining the use of dynamic DSNAs to promote sustainable behaviour have shown positive effects overall in comparison with static DSNAs (Loschelder et al., 2019; Mortensen et al., 2019; Sparkman & Walton, 2017). However, there are a limited number of studies on this, and the lowest prevalence of sustainable behaviour addressed in the experiments is 25%, which is well above the 10% reported for offsetting air travel. Such studies usually work with simple and less complex appeals that are not embedded in media contributions or narrations.

Studies on exemplars have shown that exemplars can increase the positive effects of majority SNAs (Elgaaied-Gambier et al., 2018; He et al., 2019). More specifically, when promoting environmentally friendly behaviour, Elgaaied-Gambier et al. (2018) showed that the presence of an exemplar in a message including a majority DSNA has a direct positive influence on the intention to purchase non-overpackaged products. Huber et al. (2018) examined the combination of DSNAs and a narrative told by an exemplar in the context of VCO. Although this was minority behaviour, it was presented as common behaviour within the reference group (friends of the exemplar). As the authors themselves note, this may have led to difficulties in conveying a social group norm convincingly; it may not appear to be common that within a typical friend group, many compensate for their car driving and that even more think about doing so. Nevertheless, this group norm intervention had little (negative) effect on behavioural outcomes.

However, to date, there have been no studies that employ SNAs and an exemplar to directly address minority behaviour. For this reason, we investigated, within the context of a "meet Bob" explainer video, whether a dynamic minority DSNA could lead to better persuasive outcomes than a static minority DSNA. We assumed that a dynamic minority DSNA improves persuasive outcomes in comparison with a static minority DSNA or a message without any DSNA, which leads to the following hypotheses:

H2: An explainer video with a dynamic minority DSNA leads to better persuasive outcomes than an explainer video with a static minority DSNA.

H3: An explainer video that includes a dynamic minority DSNA leads to better persuasive outcomes than an explainer video without a DSNA.

5.2. Injunctive Social Norm Appeals

In addition to the use of dynamic DSNA, another strategy to promote minority behaviour is the activation of injunctive majority norms instead of describing the minority of people performing the target behaviour (Schultz et al., 2007). Injunctive norms reflect perceptions of group members' approval of the behaviour (Cialdini et al., 1991). Accordingly, ISNAs state the proportion of people who approve of the behaviour. Majority ISNAs can have a positive impact on attitude, behaviour, and behavioural intentions (Rhodes et al., 2020). For example, they can be used to increase public support for climate policies (Nolan, 2021). Therefore, we assume that a majority ISNA has a positive effect overall:

H4: An explainer video including a majority ISNA will improve persuasive outcomes compared with an explainer video without a majority ISNA.

However, this effect can be weakened or even reversed when it is evident that the target behaviour is only performed by a minority. Research on social norm conflict indicates that SNAs can be ineffective when (majority) ISNAs do not match salient descriptive (minority) norms (e.g., Smith et al., 2012).

5.3. Norm Alignment

Incongruent or conflicting social norms exist simultaneously as long as they are not prominent in consciousness at the same time (Cialdini et al., 1991). Overall, majority ISNAs might be relatively fragile because people have an idea about the prevalence of a behaviour, even if the descriptive minority norm is not made salient in the appeal. They infer social norms through their observation of others, personal and media communication, and self-knowledge (e.g., Cialdini et al., 1991; Miller & Prentice, 1996; Witzling et al., 2019). Survey studies have shown that even when the injunctive norm was perceived as strong, which could be reinforced through majority ISNA, it was still problematic when it did not align with the perceived descriptive norm because the impact of an ISNA can be moderated through perceived descriptive norms (cf. Jacobson et al., 2020; Thøgersen, 2008; Witzling et al., 2019).

A counterstrategy could be the combination of majority ISNAs with dynamic DSNAs: The majority have a positive attitude, and an increasing number of people start acting accordingly. In this manner, social norm conflict could be mitigated when individuals perceive that there are increasing efforts to behave according to their attitudes, or rather according to injunctive norms. However, to the best of our knowledge, to date, no study has examined this combination explicitly by using a majority ISNA in combination with a dynamic minority DSNA. Studies using dynamic SNAs have not addressed social norm conflict (e.g., Mortensen et al., 2019; Sparkman & Walton, 2017), while studies focusing on social norm conflict have not included dynamic SNAs (e.g., Smith et al., 2012). Therefore, it is still a novel line of research, without any study investigating the combination of dynamic DSNAs and ISNAs using a factorial design. Based on previous research, we assume that the positive effect of majority ISNAs might be weakened when combined with a static minority DSNA, instead of a dynamic minority DSNA or no DSNA, leading to the following hypotheses:

H5: An explainer video including a majority ISNA in combination with a static minority DSNA will weaken persuasive outcomes compared with an explainer video that includes only a majority ISNA (social norm conflict).

H6: An explainer video including a majority ISNA in combination with a dynamic minority DSNA will improve persuasive outcomes compared with an explainer video with a combination of majority ISNA and static minority DSNA.

Furthermore, He et al. (2019) suggested that showing ordinary consumer endorsers, such as "Bob," leads to stronger persuasive outcomes when using dynamic DSNAs than when using ISNAs. However, they operationalised their ISNA via a direct behavioural appeal ("every student should save energy") and not by specifying a proportion of people. Thus, their results could stem from the fact that direct behavioural appeals are more likely to be accepted by celebrities than by ordinary consumers. Therefore, we examined within the context of a "meet Bob" explainer video whether a traditional majority ISNA can be more effective than a dynamic DSNA, leading to the following research question:

RQ1: Does an explainer video including a majority ISNA lead to better persuasive outcomes than an explainer video including a dynamic minority DSNA?

6. Study One

6.1. Method

The hypotheses were tested in two studies for economic reasons. The first study focuses on the narrative perspective and minority DSNAs to test H1 and H2. We conducted a 2 (narrative perspective: first- vs. third-person) × 2 (DSNA: static vs. dynamic) × 2 (destination: Europe

vs. overseas) between-subjects experiment (N = 482, M_{age} = 44.93, SD_{age} = 14.58, 50% female; representative of Germany). In addition to the narrative perspective and DSNA, we added the destination as a control factor because, in the context of a VCO for aviation, there is a well-known counterargument that flying should be avoided completely. Although there are several ways to travel within mainland Europe, it is nearly impossible to travel to distant countries or overseas without flying. In addition, the willingness to offset can depend on price (e.g., Wulfsberg et al., 2016), which might be estimated based on the destination of the exemplar.

6.1.1. Stimulus Material

Six explainer videos with professional speakers were produced as stimulus material (see Supplementary Material). All videos consisted of a frame story (animated with Animaker) around the fictional character, Christian. He is 46 years old, which is approximately the mean and median age of the German population. Around 46 years ago, Christian was the most popular name for boys in Germany. In a recent empirical study by Nett et al. (2020), the name Christian was perceived as ageless, and to belong to a person with average intelligence, attractiveness, education, and religiosity. Christian works in an office because this is the most common characteristic of job descriptions in Germany, and approximately 38% (increasing) of all German employees work in an office (Hammermann & Voigtländer, 2020). His experiences were either conveyed by himself (first-person perspective) or by a voice-over narrator (third-person perspective) using the same speaker. Christian was planning a vacation trip to Spain (Europe) or California (overseas) and was contemplating about VCO to reduce his impact on the environment. He learnt about the topic via an explainer video (whiteboard video animated with the Simpleshow video maker). The second explainer video contained general information about offsets and different DSNAs. Participants were informed that, at present, only a minority of people voluntarily offset their flights (static DSNA) or were further informed that this proportion has increased recently and is expected to continue increasing (dynamic DSNA). At the end of the video, Christian states that he offsets his flight and repeats the DSNA.

In addition to the experimental conditions, different control groups were included in the study. A video without an exemplar (whiteboard explainer video without a frame story) was used to test whether the exemplar had an effect. A video without any DSNA was used to test the possible backfire effects of the static DSNA. Another control group served to test the effects of video as a medium, and a written script was presented without visualisation. In addition, we conducted a small parallel study without stimulus (N = 44), in which we measured dependent variables as a baseline measurement.

6.1.2. Procedure

Participants were recruited and compensated by a market research institute (aiming for representativeness of the German population). They were told that this study was about VCO and that they would view a video. Individuals who generally avoid flying for private reasons were excluded. After answering demographic questions, each participant was randomly assigned to one of the conditions. Several persuasive outcomes were measured after the participants watched the videos. The questionnaire contained quality checks to ensure data quality. Participants who failed the quality checks were immediately excluded. This study was approved by the ethics committee of our university.

6.1.3. Measures

Persuasive outcomes were operationalised using four dependent variables (see Supplementary Material). The intention to offset (five items; M = 2.77, SD = 1.03, α = .98) and attitude towards VCO (three items; M = 3.91, SD = 1, α = .91) were measured following Denton et al. (2020). The intention to obtain further information about VCO was measured using six self-developed items (M = 3.23, SD = 1.16, α = .92), and perceived effectiveness of VCO was measured with three items (M = 3, SD = 1.24, α = .95). All constructs were measured on a 5-point scale (1 = *do not agree at all*, 5 = *agree completely*).

6.2. Pre-Study

We tested the measures and the stimulus material in a pre-study (N = 181). The results of the manipulation check showed that participants in the first-person condition perceived a stronger sense of being addressed personally (M = 2.57, SD = .90) than those in the third-person condition (M = 3.68, SD = .91, $F(1, 156) = 54.83$, $p < .001$, $\eta^2 = .26$). Moreover, an increasing trend was practically more likely to be perceived in the dynamic DSNA condition (M = 3.27, SD = .96) than in the static DSNA condition (M = 3, SD = .93, $F(1, 156) = 3.33$, $p = .07$, $\eta^2 = .02$). Participants in the European condition perceived the destination as closer, while participants in the overseas condition perceived the destination as farther away ($F(2, 155) = 94.10$, $p < .001$, $\Lambda = .45$, $\eta^2 = .55$). Perceived quality (M = 4.14, SD = .97) and credibility (M = 4.10, SD = 1) did not differ between the conditions and were significantly higher than the centre of the scales ($p < .05$).

6.3. Results

To test the hypotheses, we conducted several analyses of covariance, controlling for age and gender. Neither the narrative perspective, DSNAs, nor the destination had any effect on any dependent variable (see Supplementary Material). Therefore, H1 and H2 were rejected.

Next, we examined the control groups to determine whether the videos were perceived as equally effective or ineffective. Contrast analysis showed almost no differences between the experimental and control groups for all dependent variables. Regarding baseline measurement, we found that some of the videos, at least marginally, strengthened the intention to obtain further information about VCO (see Supplementary Material).

6.4. Discussion

There were no differences between the experimental groups for any of the dependent variables. Regarding the narrative perspective, our results reflect those of Chen and Bell's (2021) recent meta-analysis, showing that a first-person narrative perspective cannot directly strengthen attitude and behavioural intentions compared to a third-person perspective in the health context. However, their results indicated that first-person effects might be stronger when the narration uses past tense because this could reinforce the impression that the experience is already complete. An alternative explanation might be that it was due to the reception habit because third-person narration is conventionally used in "meet Bob" explainer videos. However, we did not ask whether the participants watched such videos regularly.

Furthermore, we considered why the DSNAs did not lead to significant differences. From a theoretical perspective, dynamic DSNAs can lead to pre-conformity (a future descriptive norm) and compliance when individuals anticipate ongoing change and a future world in which minority behaviour is the norm (Sparkman & Walton, 2017). However, the lowest proportion of sustainable behaviour addressed was 25%. The proportion of 10% in the case of VCO might be too small to evoke pre-conformity because it is far from the threshold of majority behaviour (50%). In addition, we did not refer to an explicit reference group, which may have weakened the effects (cf. Yamin et al., 2019).

7. Study Two

7.1. Method

In the second study, we focused on the combination of minority DSNAs and majority ISNAs to test H2–H6 and RQ1. We conducted a 3 (DSNA: static vs. dynamic vs. absent) × 2 (ISNA: present vs. absent) between-subjects experiment (N = 270, M_{age} = 44.56, SD_{age} = 14.05, 50% female; representative of Germany). This study followed the same procedure as that used in the first study. The same explainer videos were used (narrative perspective: first-person; destination: Europe), but the DSNAs were slightly revised by explicitly including the German population as a reference group and adapted to the new design: the static DSNA, the dynamic DSNA, and the video without a DSNA were either supplemented with a majority ISNA or not (see Supplementary Material). Again, all SNAs were repeated verbally by the exemplar at the end of the video.

In addition to the measures from the first study, manipulation checks for the DSNAs and ISNA were carried out (DNSA: What do you think—By how much will the proportion of people who offset their air travel increase by 2025?; and ISNA: What percentage of Germans do you think are in favour of voluntary CO2 offsetting of flights?).

7.2. Results

7.2.1. Manipulation Check

Analyses of covariance, controlling for age and gender, were assessed. With respect to DSNAs, there were differences in the perception of a future trend (F(2, 262) = 8.52, p < .001, η^2 = .06); Tukey's post-hoc analysis showed that participants who viewed a dynamic DSNA perceived a stronger trend (M = 3.39, SD = .94) than those who viewed a static DSNA (−.55, p < .001) or no DSNA (−.32, p = .03). There were no differences between those who viewed static DSNA and those who did not view DSNA. Results for ISNA showed that the percentage of people who approved of VCO was estimated to be significantly higher when watching a video with ISNA (M = 58.38, SD = 24.71) than without (M = 40.39, SD = 24.82, F(1, 262) = 35.08, p < .001, η^2 = .12).

7.2.2. Hypothesis Testing

Again, several analyses of covariance controlling for age and gender were conducted for the dependent variables (see Supplementary Material). Regarding the DSNAs, there were only differences in the attitude towards VCO (F(1, 262) = 6.09, p = .003, η^2 = .04). Tukey's post-hoc analysis showed that a dynamic DSNA could improve attitude compared to the group without a DSNA (95% CI [.09, .42], p = .002), partially confirming H3. Furthermore, the results show that a majority ISNA can at least marginally strengthen the intention to offset (F(1, 262) = 3.36, p = .07, η^2 = .01), attitude towards VCO (F(1, 262) = 4.19, p = .04, η^2 = .02), perceived effectiveness (F(1, 262) = 6.23, p = .01, η^2 = .02), and intention to obtain further information about VCO (F(1, 262) = 2.91, p = .09, η^2 = .01), partially confirming H4. ISNA led to an increase in the mean values in all DSNA conditions. Other effects of ISNA, DSNA, and their interaction were not significant, leading to the rejection of H2, H5, and H6. There was no descriptive evidence of social norm conflict.

7.2.3. Baseline Measurement

To assess the general effectiveness of the stimuli, they were again compared with the baseline measurements. Contrast analysis shows that watching any of the explainer videos including an SNA strengthened the intention to offset and to obtain further

information about VCO compared to the baseline (see Supplementary Material). However, there were no differences in the attitude towards VCO.

7.2.4. Additional Analysis

In studies on dynamic DSNAs, pre-conformity or projected commonness of future behaviour is often used as a mediator (e.g., Loschelder et al., 2019; Mortensen et al., 2019; Sparkman & Walton, 2017). For this reason, we conducted a mediation analysis with 5,000 bootstrap samples using our manipulation checks as mediators (Lavaan Package; Rosseel, 2012). Pre-conformity (*ab* = .28, 95% CI [.12, .45]) and perceived injunctive norms (*ab* =.20, 95% CI [.05,.35]) mediated the effect of SNAs on the intention to offset (see Figure 1). There were no direct effects of SNAs on the intention to offset, and SNAs only had the expected effect on the respective manipulation check (see Supplementary Material).

7.3. Discussion

The results show that a majority ISNA can enhance persuasive outcomes; however, the effects are small. Regarding the DSNAs, however, there were differences only between dynamic DSNA and the message without a DSNA with respect to the attitude towards VCO, which for the most part confirmed the null results of the first study. The results of the mediation analysis suggest that the direct effects on intention to offset are mediated through perceived norms.

Regarding RQ1, our results differ somewhat from those of He et al. (2019), who concluded that ordinary exemplars are more successful in combination with DSNAs in terms of their effect on the intention to act in an environmentally friendly manner. In the present study, only ISNA had a significant direct effect. Nevertheless, as stated previously, He et al. (2019) operationalised ISNA differently. Furthermore, the results show no interaction effects between DSNAs and ISNA, implying that social norm conflict did not lead to undesired effects. Nevertheless, the combination of ISNA and dynamic DSNA yielded the highest values descriptively.

8. General Discussion

This study aimed to determine how explainer videos regarding VCO could be designed to be highly persuasive and to foster participation in VCO. We focused on different stylistic devices of explainer videos applying the "meet Bob" trope and normative appeals. There were no differences based on the narrative perspective or the destination used in the video. However, the results of the second study show that watching an explainer video including an SNA, in general, can strengthen the intention to offset and obtain further information about VCO. Overall, this confirms the results of other studies demonstrating that providing people with information about VCO can increase their willingness to offset (e.g., Denton et al., 2020; Gössling et al., 2009; Lu & Wang, 2018).

Nevertheless, we were not able to find positive or negative effects regarding minority DSNAs in the two studies. In the second study, we found a positive effect of dynamic DSNA on the attitude towards VCO compared to the condition without DSNA. At the same time, no backfire effects were caused by static DSNA. These results are mostly in line with studies suggesting that static DSNAs are not effective in promoting sustainable minority behaviour (e.g., Aldoh et al., 2021; Richter et al., 2018), but other studies have concluded that dynamic DSNAs are more effective than static DSNAs (Loschelder et al., 2019; Mortensen et al., 2019; Sparkman & Walton, 2017). However, the latter studies were conducted with minority behaviours that were more prevalent than VCO. Nevertheless, our results confirm that the effects on the intention to act might be mediated through perceived social norms or pre-conformity, which is in line with Mortensen et al. (2019) and Sparkman and Walton

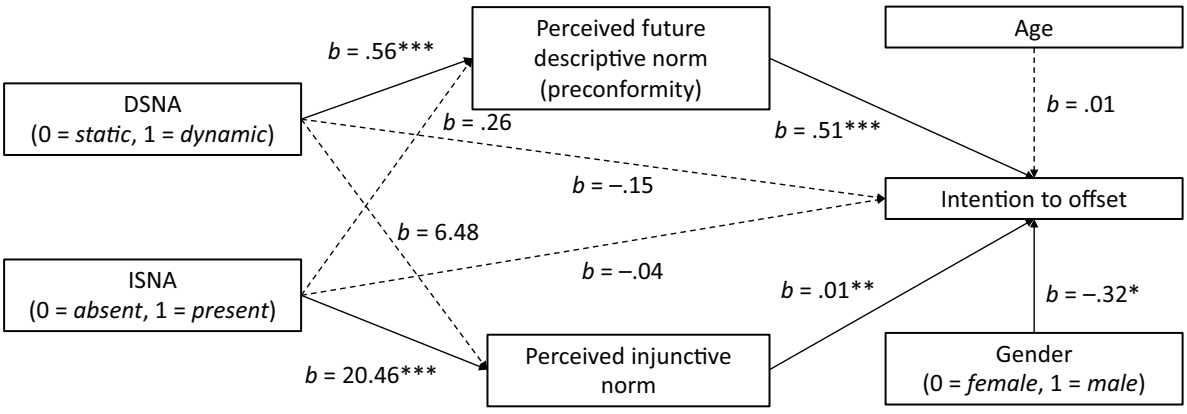

Figure 1. Mediation model. Notes: Non-standardised regression coefficients; * $p < .05$, ** $p < .01$, *** $p < .001$; effects of DSNA and ISNA on the intention to offset are fully mediated by pre-conformity (*ab* = .28, 95% CI [.12, .45]) and perceived injunctive norm (*ab* = .20, 95% CI [.05, .35]).

(2017). Furthermore, Melnyk et al. (2019) implied that DSNAs act as heuristics, whereas ISNAs are processed more elaborately. Following this assumption, DSNAs might be less effective than ISNAs when embedded in an explainer video because it is precisely the aim of explainer videos to impart knowledge, which leads to elaborate processing.

In line with this, the results show that a majority ISNA can improve the attitude towards VCO and the perceived effectiveness of VCO. Overall, this is consistent with previous studies demonstrating the positive effects of ISNAs on different persuasive outcomes (see Rhodes et al., 2020). Nevertheless, the effects on the intention to offset and the intention to obtain more information on the topic were only marginally significant. However, the results of the mediation analysis suggest that these effects may be mediated by perceived norms, which can be affected by SNA. These results should not be neglected; a meta-analysis by Yeganeh et al. (2020) concluded that public (community) support for climate policy and environmental activism has the largest positive impact on policy adoption. This public support can be improved through the use of majority ISNAs (Nolan, 2021).

This was the first study to combine a majority ISNA with a dynamic minority DSNA to address behaviour approved by a majority but only expressed by a minority. The combination of majority ISNA and static minority DSNA did not lead to undesired effects caused by social norm conflict or a nullification of main effects (cf. Schultz et al., 2007; Smith et al., 2012). However, dynamic DSNA did not significantly reinforce the positive effects of ISNA. These results are somewhat similar to those of Habib et al. (2021), who, unlike Smith et al. (2012), did not find negative effects caused by social norm conflict but rather a reversed positive effect: The combination of a majority ISNA and a minority DSNA increased organ donor registration. In their recent field experiment, they showed that unaligned SNAs could lead to better results than a minority DSNA or a majority ISNA alone, which is descriptively also reflected in our data. However, in an online panel experiment, Habib et al. (2021) found differences between unaligned SNAs and a minority DSNA, but not between unaligned SNAs and a majority ISNA. They suggested that this might be caused by the online environment because a majority ISNA shows participants the "right" thing to do, and since there is no cost of providing that answer, they do so. In our research, only marginally significant effects of ISNA on behavioural intention were found, but this might still limit our results.

Another possible explanation for the inconsistent results with regard to social norm conflict could be the nature of the research subject. Smith et al. (2012) reported that in the minority DSNA condition, 22% of students engaged in energy conservation. The inconsistent results may have been a consequence of surprise that only 22% made any effort at all to save energy, even though 82% were in favour of doing so. In contrast, offsetting an airplane flight (or registering as an organ donor) is an explicit behaviour, and 10% participation might seem relatively legitimate, even if the behaviour is approved by the majority.

Generally, our results may be limited by the coronavirus pandemic, as air travel was restricted, and people have travelled less by airplanes since then. Moreover, a "meet Bob" explainer video was combined with a whiteboard explainer video, which might have limited the external validity of the study. We included several control groups and a baseline measurement, but did not compare the explainer video with other formats, such as short science documentaries or reportages. Regarding SNAs, only weak effects on persuasive outcomes were observed. This may be because SNAs were embedded in longer explainer videos. Consequently, the manipulation was only one small part of a complex media stimulus, possibly including several new, overwhelming pieces of information apart from SNAs (cf. Tyers, 2018).

9. Conclusion

To summarise, explainer videos aiming to promote sustainable minority behaviour, emphasising that this behaviour is approved and desired by a majority, or that an increasing number of people have been adopting the desired behaviour, appears to be a promising approach. Furthermore, SNAs might be able to make social norms salient and influence perceived norms, at least in the short term, leading to stronger behavioural intentions. Watching different videos over time may induce behavioural changes in the long term when social norms are internalised. Therefore, including SNAs in science communication tools such as explainer videos can help promote pro-environment behaviours, even if the effects are weak, because including such SNAs does not involve any costs but ensures that a large and broad audience is reached. Consequently, explainer videos not only represent a useful channel for presenting science information online and sharing knowledge but also offer an opportunity for science journalists or activists to address climate change and actively target behavioural changes.

Acknowledgments

We sincerely thank our master's students Manuela Ackermann, Talita Bernasconi, Florian Christen, Tim Hofer, and Alexander Schildknecht for creating the videos and conducting the study with us.

Conflict of Interests

The author declares no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

References

Alam, N. (2021). Narrative strategies for animated development communication: Examples from BRAC in Bangladesh. In G. Sorce (Ed.), *Global perspectives on NGO communication for social change* (pp. 90–105). Routledge. https://doi.org/10.4324/9781003188636

Aldoh, A., Sparks, P., & Harris, P. R. (2021). Dynamic norms and food choice: Reflections on a failure of minority norm information to influence motivation to reduce meat consumption. *Sustainability*, *13*(15), Article 8315. https://doi.org/10.3390/su13158315

Allgaier, J. (2019). Science and environmental communication on YouTube: Strategically distorted communications in online videos on climate change and climate engineering. *Frontiers in Communication*, *4*, Article 36. https://doi.org/10.3389/fcomm.2019.00036

Babakhani, N., Ritchie, B. W., & Dolnicar, S. (2017). Improving carbon offsetting appeals in online airplane ticket purchasing: Testing new messages, and using new test methods. *Journal of Sustainable Tourism*, *25*(7), 955–969. https://doi.org/10.1080/09669582.2016.1257013

Beckers, K., Walgrave, S., & Van den Bulck, H. (2018). Opinion balance in vox pop television news. *Journalism Studies*, *19*(2), 284–296. https://doi.org/10.1080/1461670X.2016.1187576

Bigsby, E., Bigman, C. A., & Gonzalez, A. M. (2019). Exemplification theory: A review and meta-analysis of exemplar messages. *Annals of the International Communication Association*, *43*(4), 273–296. https://doi.org/10.1080/23808985.2019.1681903

Bullock, O. M., Shulman, H. C., & Huskey, R. (2021). Narratives are persuasive because they are easier to understand: Examining processing fluency as a mechanism of narrative persuasion. *Frontiers in Communication*, *6*, Article 719615. https://doi.org/10.3389/fcomm.2021.719615

Chen, M., & Bell, R. A. (2021). A meta-analysis of the impact of point of view on narrative processing and persuasion in health messaging. *Psychology & Health*, *37*(5), 1–18. https://doi.org/10.1080/08870446.2021.1894331

Cialdini, R. B., & Goldstein, N. J. (2004). Social influence: Compliance and conformity. *Annual Review of Psychology*, *55*(1), 591–621. https://doi.org/10.1146/annurev.psych.55.090902.142015

Cialdini, R. B., Kallgren, C. A., & Reno, R. R. (1991). A focus theory of normative conduct: A theoretical refinement and reevaluation of the role of norms in human behavior. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 24, pp. 201–234). Elsevier. https://doi.org/10.1016/S0065-2601(08)60330-5

Cialdini, R. B., Reno, R. R., & Kallgren, C. A. (1990). A focus theory of normative conduct: Recycling the concept of norms to reduce littering in public places. *Journal of Personality and Social Psychology*, *58*(6), 1015–1026. https://doi.org/10.1037/0022-3514.58.6.1015

Cohen, J. (2001). Defining identification: A theoretical look at the identification of audiences with media characters. *Mass Communication and Society*, *4*(3), 245–264. https://doi.org/10.1207/S15327825MCS0403_01

Davis, L. S., & León, B. (2018). New and old narratives: Changing narratives of science documentary in the digital environment. In B. León & M. Bourk (Eds.), *Communicating science and technology through online video: Researching a new media phenomenon* (pp. 55–63). Routledge.

De Lara, A., García-Avilés, J. A., & Revuelta, G. (2017). Online video on climate change: A comparison between television and web formats. *Journal of Science Communication*, *16*(01), Article A04. https://doi.org/10.22323/2.16010204

Denton, G., Chi, O. H., & Gursoy, D. (2020). An examination of the gap between carbon offsetting attitudes and behaviors: Role of knowledge, credibility and trust. *International Journal of Hospitality Management*, *90*, Article 102608. https://doi.org/10.1016/j.ijhm.2020.102608

Elgaaied-Gambier, L., Monnot, E., & Reniou, F. (2018). Using descriptive norm appeals effectively to promote green behavior. *Journal of Business Research*, *82*, 179–191. https://doi.org/10.1016/j.jbusres.2017.09.032

Eurostat. (n.d.). *Greenhouse gas emission statistics—Air emissions accounts*. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Greenhouse_gas_emission_statistics_-_air_emissions_accounts&oldid=551152#Greenhouse_gas_emissions

Fell, H.-J., & Traber, T. (2020). *The path to climate neutrality by 2050 misses the Paris climate targets: The rocky road to truthfulness in climate politics*. Energy Watch Group. https://www.energywatchgroup.org/wp-content/uploads/EWG_Policy-Paper_2021_Climate-Neutrality-2050.pdf

Findeisen, S., Horn, S., & Seifried, J. (2019). Lernen durch Videos—Empirische Befunde zur Gestaltung von Erklärvideos [Learning by videos—Empirical findings on the design of explainer videos]. *MedienPädagogik*, *2019*, 16–36. https://doi.org/10.21240/mpaed/00/2019.10.01.X

Frees, B., Kupferschmitt, T., & Müller, T. (2019). ARD/ZDF-Massenkommunikation Trends 2019: Non-lineare Mediennutzung nimmt zu [ARD/ZDF mass communication trends 2019: Non-linear media use on the rise]. *Media Perspektiven*, *8*, 314–333.

Galan, L., Osserman, J., Parker, T., & Taylor, M. (2019). *How young people consume news and the implications for mainstream media*. Flamingo; Reuters Institute; Oxford University. https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2021-02/

FlamingoxREUTERS-Report-Full-KG-V28.pdf
Gibson, R., & Zillmann, D. (1994). Exaggerated versus representative exemplification in news reports: Perception of issues and personal consequences. *Communication Research*, *21*(5), 603–624. https://doi.org/10.1177/009365094021005003
Gössling, S., Haglund, L., Kallgren, H., Revahl, M., & Hultman, J. (2009). Swedish air travellers and voluntary carbon offsets: Towards the co-creation of environmental value? *Current Issues in Tourism*, *12*(1), 1–19. https://doi.org/10.1080/13683500802220687
Habib, R., White, K., & Hoegg, J. (2021). Everybody thinks we should but nobody does: How combined injunctive and descriptive norms motivate organ donor registration. *Journal of Consumer Psychology*, *31*(3), 621–630. https://doi.org/10.1002/jcpy.1220
Hammermann, A., & Voigtländer, M. (2020). Bürobeschäftigte in Deutschland: Eine Regionalanalyse [Office employees in Germany: A regional analysis]. *IW Trends*, *47*(3), 61–78. https://doi.org/10.2373/1864-810X.20-03-04
Harris, A. J. L., Sildmäe, O., Speekenbrink, M., & Hahn, U. (2019). The potential power of experience in communications of expert consensus levels. *Journal of Risk Research*, *22*(5), 593–609. https://doi.org/10.1080/13669877.2018.1440416
He, H., Fu, J., Li, X., & Guo, R. (2019). The interplay between endorser social status and normative appeals on the endorsement effectiveness of pro-environmental behaviors. *PLoS ONE*, *14*(1), Article e0210699. https://doi.org/10.1371/journal.pone.0210699
Hertwich, E. G., & Peters, G. P. (2009). Carbon footprint of nations: A global, trade-linked analysis. *Environmental Science & Technology*, *43*(16), 6414–6420. https://doi.org/10.1021/es803496a
Hofer, M., Tamborini, R., & Ryffel, F. A. (2021). Between a rock and a hard place: The role of moral intuitions and social distance in determining moral judgments of an agent in a moral dilemma. *Journal of Media Psychology*, *33*(3), 103–112. https://doi.org/10.1027/1864-1105/a000284
Huber, R. A., Anderson, B., & Bernauer, T. (2018). Can social norm interventions promote voluntary pro environmental action? *Environmental Science & Policy*, *89*, 231–246. https://doi.org/10.1016/j.envsci.2018.07.016
Intergovernmental Panel on Climate Change. (2015). *Climate change 2014: Synthesis report*. https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf
Intergovernmental Panel on Climate Change. (2021). *Climate change 2021: The physical science basis.* Cambridge University Press. https://www.ipcc.ch/report/ar6/wg1/#SPM
Jacobson, R. P., Marchiondo, L. A., Jacobson, K. J. L., & Hood, J. N. (2020). The synergistic effect of descriptive and injunctive norm perceptions on counterproductive work behaviors. *Journal of Business Ethics*, *162*(1), 191–209. https://doi.org/10.1007/s10551-018-3968-1
Kim, N., Kim, H. K., Wojcieszak, M., Igartua, J.-J., & Lim, C. M. (2020). The presence of the protagonist: Explaining narrative perspective effects through social presence. *Media Psychology*, *23*(6), 891–914. https://doi.org/10.1080/15213269.2019.1665548
Kobiela, G., Samadi, S., Kurwan, J., Tönjes, A., Fischedick, M., Koska, T., Lechtenböhmer, S., März, S., & Schüwer, D. (2020). *CO2-neutral bis 2035: Eckpunkte eines deutschen Beitrags zur Einhaltung der 1,5-°C-Grenze* [CO2-neutral by 2035: Key points of a German contribution to meeting the 1.5 °C limit]. Wuppertal Institut für Klima, Umwelt, Energie. https://doi.org/10.48506/opus-7606
Koch, W., & Bleisch, N. (2020). Ergebnisse der ARD/ZDF-Onlinestudie 2020: Erneut starke Zuwächse bei Onlinevideo [Results of the ARD/ZDF online study 2020: Strong growth in online video once again]. *Media Perspektiven*, *9*, 482–500.
Loschelder, D. D., Siepelmeyer, H., Fischer, D., & Rubel, J. A. (2019). Dynamic norms drive sustainable consumption: Norm-based nudging helps café customers to avoid disposable to-go-cups. *Journal of Economic Psychology*, *75*, Article 102146. https://doi.org/10.1016/j.joep.2019.02.002
Lu, J.-L., & Wang, C.-Y. (2018). Investigating the impacts of air travellers' environmental knowledge on attitudes toward carbon offsetting and willingness to mitigate the environmental impacts of aviation. *Transportation Research Part D*, *59*, 96–107. https://doi.org/10.1016/j.trd.2017.12.024
Melnyk, V., van Herpen, E., Jak, S., & van Trijp, H. C. M. (2019). The mechanisms of social norms' influence on consumer decision making: A meta-analysis. *Zeitschrift Für Psychologie*, *227*(1), 4–17. https://doi.org/10.1027/2151-2604/a000352
Miller, D. T., & Prentice, D. A. (1996). The construction of social norms and standards. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 799–829). Guilford Press.
Mortensen, C. R., Neel, R., Cialdini, R. B., Jaeger, C. M., Jacobson, R. P., & Ringel, M. M. (2019). Trending norms: A lever for encouraging behaviors performed by the minority. *Social Psychological and Personality Science*, *10*(2), 201–210. https://doi.org/10.1177/1948550617734615
Munoz Morcillo, J., Czurda, K., & Robertson-von Trotha, C. Y. (2016). Typologies of the popular science web video. *Journal of Science Communication*, *15*(04), Article A02. https://doi.org/10.22323/2.15040202
Najeeb, F. (2020, February 22). How to write an effective explainer video script. *Motioncue*. https://motioncue.com/how-to-write-an-effective-explainer-video-script
Nett, T., Dorrough, A., Jekel, M., & Glöckner, A. (2020). Perceived biological and social characteristics of a

representative set of German first names. *Social Psychology*, *51*(1), 17–34. https://doi.org/10.1027/1864-9335/a000383

Nolan, J. M. (2021). Social norm interventions as a tool for pro-climate change. *Current Opinion in Psychology*, *42*, 120–125. https://doi.org/10.1016/j.copsyc.2021.06.001

Oentoro, A. (2018). *The ultimate cheatsheet to explainer video scripts*. Breadnbeyond. https://breadnbeyond.com/explainer-video/explainer-video-script-cheatsheet

Peter, C., & Zerback, T. (2020). Ordinary citizens in the news: A conceptual framework. *Journalism Studies*, *21*(8), 1003–1016. https://doi.org/10.1080/1461670X.2020.1758190

Rhodes, N., Shulman, H. C., & McClaran, N. (2020). Changing norms: A meta-analytic integration of research on social norms appeals. *Human Communication Research*, *46*(2/3), 161–191. https://doi.org/10.1093/hcr/hqz023

Richter, I., Thøgersen, J., & Klöckner, C. (2018). A social norms intervention going wrong: Boomerang effects from descriptive norms information. *Sustainability*, *10*(8), Article 2848. https://doi.org/10.3390/su10082848

Ritchie, B. W., Kemperman, A., & Dolnicar, S. (2021). Which types of product attributes lead to aviation voluntary carbon offsetting among air passengers? *Tourism Management*, *85*, Article 104276. https://doi.org/10.1016/j.tourman.2020.104276

Ritchie, H., Roser, M., & Rosado, P. (2020). *CO_2 and greenhouse gas emissions*. OurWorldInData. https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions

Rosenthal, S., & Dahlstrom, M. F. (2019). Perceived influence of proenvironmental testimonials. *Environmental Communication*, *13*(2), 222–238. https://doi.org/10.1080/17524032.2017.1287112

Rosseel, Y. (2012). lavaan: An R package for structural equation modeling. *Journal of Statistical Software*, *48*(2), 1–36.

Schorn, A. (2022). Online explainer videos: Features, benefits, and effects. *Frontiers in Communication*, *7*, Article 1034199. https://doi.org/10.3389/fcomm.2022.1034199

Schultz, P. W., Nolan, J. M., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2007). The constructive, destructive, and reconstructive power of social norms. *Psychological Science*, *18*(5), 429–434. https://doi.org/10.1111/j.1467-9280.2007.01917.x

Smith, J. R., Louis, W. R., Terry, D. J., Greenaway, K. H., Clarke, M. R., & Cheng, X. (2012). Congruent or conflicted? The impact of injunctive and descriptive norms on environmental intentions. *Journal of Environmental Psychology*, *32*(4), 353–361. https://psycnet.apa.org/doi/10.1016/j.jenvp.2012.06.001

Sparkman, G., & Walton, G. M. (2017). Dynamic norms promote sustainable behavior, even if it is counternormative. *Psychological Science*, *28*(11), 1663–1674. https://doi.org/10.1177/0956797617719950

Thøgersen, J. (2008). Social norms and cooperation in real-life social dilemmas. *Journal of Economic Psychology*, *29*(4), 458–472. https://psycnet.apa.org/doi/10.1016/j.joep.2007.12.004

Tyers, R. (2018). Nudging the jetset to offset: Voluntary carbon offsetting and the limits to nudging. *Journal of Sustainable Tourism*, *26*(10), 1668–1686. https://doi.org/10.1080/09669582.2018.1494737

Umweltbundesamt. (2022). *Umweltbewusstsein und Umweltverhalten* [Environmental awareness and behavior]. https://www.umweltbundesamt.de/daten/private-haushalte-konsum/umweltbewusstsein-umweltverhalten#stellenwert-des-umwelt-und-klimaschutzes

Winterbottom, A., Bekker, H. L., Conner, M., & Mooney, A. (2008). Does narrative information bias individual's decision making? A systematic review. *Social Science & Medicine*, *67*(12), 2079–2088. https://doi.org/10.1016/j.socscimed.2008.09.037

Witzling, L., Shaw, B., & Trechter, D. (2019). Which communication channels shape normative perceptions about buying local food? An application of social exposure. *Agriculture and Human Values*, *36*(3), 443–454. https://doi.org/10.1007/s10460-019-09926-1

Wulfsberg, I., Reiser, D., Rundshagen, V., & Scherle, N. (2016, July 12–15). *The influence of environmental attitudes and concerns on the voluntary carbon-offsetting behaviour of German tourists* [Paper presentation]. BEST EN Think Tank XVI, Eberswalde, Germany. https://www.besteducationnetwork.org/Papers_Presentations/14603

Yamin, P., Fei, M., Lahlou, S., & Levy, S. (2019). Using social norms to change behavior and increase sustainability in the real world: A systematic review of the literature. *Sustainability*, *11*(20), Article 5847. https://doi.org/10.3390/su11205847

Yeganeh, A. J., McCoy, A. P., & Schenk, T. (2020). Determinants of climate change policy adoption: A meta-analysis. *Urban Climate*, *31*, Article 100547. https://doi.org/10.1016/j.uclim.2019.100547

Zillmann, D. (1999). Exemplification theory: Judging the whole by some of its parts. *Media Psychology*, *1*(1), 69–94. https://doi.org/10.1207/s1532785xmep0101_5

Zillmann, D. (2006). Exemplification effects in the promotion of safety and health. *Journal of Communication*, *56*(Suppl. 1), 221–237. https://doi.org/10.1111/j.1460-2466.2006.00291.x

About the Authors

Anna Schorn is a research and teaching assistant and a PhD student at the Department of Communication and Media Research, University of Zürich. She studied media and communication, rhetoric, and psychology at the University of Tübingen. Her research interests lie within the field of media psychology and she is engaged in research on the persuasive effects of media. In her work, she focuses on sustainability and climate change communication, explainer videos, and the influence of normative messages.

Werner Wirth (PhD) is a full professor of communications and media research at the Department of Communication and Media Research, University of Zürich. His interests include media psychology, empirical methods, media reception and its effects, focusing on persuasion and emotion. His current research fields are political, prosocial, and sustainability communication. In his latest projects, he focused on measures to promote sustainable behaviour.