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Should the moral core of climate issues be emphasized or downplayed in public discourse? Three ways to successfully manage the double-edged sword of moral communication

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Abstract The main objective of this paper is to identify a serious problem for communicators regarding the framing of climate issues in public discourse, namely that moralizing such an issue can motivate individuals while at the same time defensively lead them to avoid solving the problem. We review recent social-psychological research on moral motivation, concluding that moralization is a double-edged sword: It provides people with a powerful motivation to act for a cause they believe in, yet people often cope with moral threats in defensive ways. Fortunately, recent research also hints at possible solutions of this dilemma of communication. One solution involves the non-moral framing of persuasive messages as a means to avoid defensive responses. Another solution revolves around promoting coping mechanisms that do not reflect defensiveness, such as the promotion of value-driven group identities and the development of moral convictions that increase a sense of agency. Finally, we suggest ways to developing change-oriented moral convictions about climate issues. Our findings are of substantial relevance for scientists and policy makers who aim at stimulating behavioural change (e.g., governments' commitment to the reduction of GHG emissions).

1 Introduction

Climate issues are heavily moralized, illustrated by the following quotes from Al Gore's documentary An Inconvenient Truth (Bender et al. 2006): "This is really not a political issue so much as a moral issue" and "There are … people … who hold this at arms' length, because if they acknowledge it … then the moral imperative to do big changes would be inescapable". Indeed,

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one of the riddles surrounding the problem of climate issues is why individuals and governments appear to moralize them yet do so little to solve them.

Using moral arguments to emphasize the imperative to act, change, and adjust behaviour is a common feature of public discourse that often serves to exert social influence. Underlying the moral framing of arguments is the lay perception that emphasizing the moral core of issues may motivate people to act to solve the problem at hand. In this article, we review social-psychological evidence that supports this notion, but we also find evidence for the notion that a moral framing can lead individuals to avoid solving the problem at hand. This constitutes a paradoxical situation in which moralizing an issue appears has the potential for both positive and negative effects on mobilization and. The specific situation we focus on here is the one faced by communicators such as politicians, journalists, community leaders, and teachers when they try to motivate and activate followers-to-be. Fortunately, recent social-psychological research may also hint at how the paradox can be solved –- which is the central focus of this paper.

Below, we will first introduce the core constructs relevant to moralization and review recent social-psychological research on how individuals can become motivated to act yet simultaneously become avoidant of solving the problem at hand. We will then outline three possible ways to circumvent the negative effects and strengthen the positive effects of communicating climate change issues. Finally, we propose an agenda for future research to explore the solutions delineated.

1.1 Moral threats foster social action…

Social change is often driven by individuals acting in concert, which we refer to here as 'social action' (Van Zomeren 2013). Social action refers to the actions of disadvantaged as well as advantaged group members who undertake such actions with the aim to further the goals of the group that unites them (e.g., a social movement; Van Zomeren and Iyer 2009). The notion of social action thus includes disadvantaged group members' struggle for equal rights or other improvements in their position (e.g., protests by students, farmers, women, gays, etcetera; for a review see Klandermans 1997), advantaged group members who feel solidarity with the plight of a disadvantaged group (e.g., Whites in the civil rights movement; e.g., Iyer and Leach 2010; Iyer et al. 2007; Leach et al. 2002, 2006), and individuals who participate (e.g., vote) in the political system (e.g., Skitka and Bauman 2008).

One of four core motivations for social action is moral motivation (for reviews see Van Zomeren 2013). Moral motivation includes the motivation to engage in social action based on personal values and/or collective ideologies. Although individuals may have strong values themselves that lead them to connect with action groups or social movements who share these values (e.g., Van Stekelenburg et al. 2009), they may also already belong to groups with ideologies and derive their values from these ideologies.

Theoretical models of individuals' moral motivation assume that individuals are motivated to act to promote the realization of their values (e.g., Morgan et al. 2010), but also to protect them from perceived threats (e.g., Monin 2007). Indeed, Tetlock et al. (2000) sacred value protection model suggests that individuals respond defensively to threats to so-called sacred values, for instance through moral outrage directed at those who dared to violate them. Other work by Skitka and colleagues (e.g., Bauman and Skitka 2009; Skitka et al. 2005) suggests that sacred values can be internalized to the extent that individuals experience them as moral convictions –- strong attitudes that uniquely differ from non-moral strong attitudes by instigating a sense of "imperative and unwillingness to compromise even in the face of competing desires or concerns" (Skitka 2014). Issues that are related to people's moral convictions are

associated with their core moral beliefs and their fundamental sense of right or wrong (Bauman and Skitka 2009). Most important for the focus of this paper, moral convictions are essential when attempting to convince people to act, adjust, and to improve their behaviour: "Moral convictions appear to provide people with the courage and motivation they need to become involved in creating a better and more just world" (Skitka 2010, p. 278).

One reason for why moral convictions have such strong motivational power is because they are experienced as subjectively absolute –- they are believed to reflect truth rather than opinion (Skitka et al. 2005). As a result, moral convictions are easily perceived as being violated and thus evoke anger and outrage –- emotions strongly associated with action (e.g., Thomas et al. 2009; Van Zomeren et al. 2011, 2012). Moreover, individuals' moral convictions positively relate to the belief that their group is able to solve the problem at hand through unified effort (group efficacy beliefs; e.g., Van Zomeren et al. 2011, 2012). Finally, these emotion and efficacy responses are psychologically unified by, or incorporated in, identification with the relevant group (Van Zomeren 2013). In this sense, moral convictions can be viewed as major motivational catalysts for social action (through the motivational identity-emotion-efficacy triad), ranging from predicting voting behaviour in presidential elections (Morgan et al. 2010; Skitka and Bauman 2008), to political engagement (Skitka 2010), willingness to protest (Van Zomeren et al. 2011, 2012), and participation in so-called 'silent marches' (Lodewijkx et al. 2008).

Note that this line of reasoning does not suggest that moral motivation necessarily leads to action. Theory and research on attitude-behaviour-gaps suggests that even attitudes that are positive towards action might result in inaction due to an interplay of hedonistic and pro-social factors that vary regarding how salient they are in the environment and how stable in individual dispositions (e.g., Bamberg and Möser 2007). Thus, the moral framing of persuasive messages might actually increase the attitude-behaviour-gap through people's tendency to react overly defensively towards threats to their morality. Moreover, it is possible that individuals developed moral convictions that work in opposite ways to motivate change-oriented action, such as in the case of those who moralize the denial of climate change.

Irrespective of the above, stressing the moral core of the issue would seem to be the strategy of choice because it should lead to increased motivation to solve the issue at hand. In fact, the need for action mitigating the consequences of climate change is agreed upon, at least among scientists: As Markowitz and Shariff (2012) state in their introduction "the climate science community has arrived at a consensus regarding both the reality of rapid, anthropogenic climate change and the necessity of urgent and sustained action to avoid its worst environmental, economic and social consequences". These authors also note, however, that the public is far from such a consensus. The insights generated by research on moral motivation and social action would lead us to advise a simple strategy: If the public needs to be persuaded to take action to mitigate the consequences of climate change, this urge to act should be framed as a moral imperative.

Unfortunately, however, there seems to be a difference between communicating morally framed messages and becoming motivated in the way intended by the communicator. For instance, Kutlaca et al. (2013) focused on the communication of a specific value in the context of student mobilization against rising tuition fees in the Netherlands. They found that value-framing did not translate directly in stronger moral motivation. Specifically, they found that for those students sharing the particular value, value-framing did not increase moral motivation but, more indirectly, increased the predictive power of their sense of unfairness with respect to group identification and action (see also Mazzoni et al. 2013). Furthermore, they found that for students who were mobilized through their identity rather than through sharing the particular value, value-framing actually backfired to the extent that they reported weaker motivation to

act. This suggests that (a) the communication of values does not automatically translate into the moral motivation needed to fuel social action, and that (b) the communication of values may actually backfire. Indeed, the communication of moral threats may also lead to self-protective responses, for which we review support below.

1.2 … but also elicit "defensive overkill"

The notion of 'defensive overkill' –- which we define as people not stopping after deflecting the threat, but "over-doing" their threat response, effectively leading to an "overkill" of the threat by completely disengaging from the topic –- is evinced in recent social-psychological work on impression formation of groups. Morality and competence are considered the two fundamental dimensions of impression formation, both individually and related to social groups (e.g., Wojciszke 1994, 2005). However, the evaluative relevance of these two dimensions is highly skewed: People generally respond more strongly to immoral behaviour (be it their own or others) compared to incompetent behaviour (Fiske et al. 2007; Skowronski and Carlston 1987, 1989; Wojciszke 1994, 2005). Täuber and Van Zomeren (2013) provide three reasons for this skewedness: Firstly, because acting morally is sanctioned by society it does not provide a good proxy for people's real intentions. Consistent with this, Skowronski and Carlston (1987, 1989) showed that negatives are more diagnostic than positives in the moral domain, whereas the opposite is true for the competence domain. Thus, being seen as competent is better than being seen as incompetent; but being seen as immoral is the Doomsday scenario (i.e., the worst of all). Secondly, the consequences of being judged as immoral are potentially more severe than those of being judged as incompetent because failing to meet moral standards can provoke exclusion from the moral community (Opotow 1990). Finally, it has been argued that judging others' morality may be more critical for survival than judging their competence, because morality informs about others' good or bad intentions whereas competence informs about their capability to act on these intentions (Fiske et al. 2007).

For all these reasons, it is not surprising that failure to meet moral standards is a particularly aversive experience that elicits self-protective responses (Monin 2007; Tetlock 2002). Indeed, rather than motivating striving to improve, shortcomings in the moral domain seem to elicit "gnawing one's teeth on the saints rather than improving one's own halo" (cf. Monin 2007). Täuber and Van Zomeren (2013) demonstrated one process that is responsible for this effect of moral framing of a group problem. Participants in their studies learned about their nations' lower performance compared to other nations regarding combating climate change (Study 1) and regarding immigration policies (Study 2). These shortcomings were framed in either moral or non-moral terms and were stated by a neutral, uncommitted source (International Panel on Climate Change and Organization for Economic Co-operation and Development) rather than by the better performing national out-group.

This study found that non-moral framing resulted in striving to improve the in-group's performance in the domain of the shortcoming. Thus, being seen as incompetent motivated individuals to strive for improvement (i.e., solve the issue at hand). However, a moral framing of exactly the same issue resulted in a refusal to improve. Notably, this effect was mediated by participants' emotional focus: When shortcomings were framed in non-moral terms, participants targeted their outrage at the in-group. When shortcomings were framed in moral terms, by contrast, participants targeted more anger and outrage at the morally superior out-group, rather than on their own group.

This point requires somewhat more emphasis. The relevance of an emotional focus on the in-group for collective action has been reported in earlier research (e.g., Harth et al. 2008; Iyer et al.

2007; Leach et al. 2006), but emotional focus was an independent (experimentally varied) variable. In the research by Täuber and Van Zomeren (2013), the focus of anger and outrage was the dependent variable. This enabled the researchers to conclude that although moral violations indeed produce anger and outrage (cf. Lodewijkx et al. 2008; Skitka et al. 2005; Tetlock et al. 2000; Van Zomeren et al. 2011, 2012), a moral framing of the issue at hand shifted individuals' anger and outrage away from their own group and toward the morally superior group. Thus, individuals seemed to self-protectively deflect the moral threat by refusing to improve themselves (but in fact lashing out against others). As such, moralizing climate issues may indeed backfire because it may evoke defensiveness. These findings are even more noteworthy given that climate change mitigation and pro-environmental behaviour form a central aspect of the Dutch identity (Cohen 2000).

Our findings do not stand in isolation. They tie in with studies on public opinion regarding the causes and consequences of climate change. For instance, Stoll-Kleemann et al. (2001) reported that their respondents were alarmed about the consequences of high-energy futures. However, they "also erected a series of psychological barriers to justify why they should not act either individually or through collective institutions to mitigate climate change". Respondents used a number of socio-psychological denial mechanisms to overcome the dissonance created in their minds, amongst them setting blame on the inaction of others such as governments. Thus, there is a risk that the cognitive dissonance that people experience when thinking about climate change together with the moral framing that is common in public discourse actually unfold cumulative effects, resulting in psychological paralysis rather than in improvement and adjustment of behaviour.

The notion of defensiveness is also apparent from the health literature on fear appeals (Witte and Allen 2000). This work suggests that communicating the negative future consequences of their current health behaviour (e.g., smoking) may lead to individual behavioural change as long as it increases individuals' awareness of these consequences of their own actions. However, it also suggests that fear appeals can have counter-productive effects because they evoke defensiveness. Indeed, and in line with previous theorizing (Rogers 1975), individuals can respond to fear appeals by rejecting the message and denying the danger because they find themselves unable to translate their fear into action. Importantly, one key moderator of whether a fear appeal leads to individual change or defensiveness is whether individuals feel that they have the efficacy to carry out the required behaviour(s). Obviously, this is a central problem of the climate change issue –- it requires the efforts of many yet their joint 'efficacy' is unclear. Such low efficacy increases the likelihood of defensive responding and decreases the likelihood of mobilization.

In sum, moral threats can lead to 'defensive overkill' because they have a self-evaluative connotation that individuals seek to deflect or avoid, for instance by directing their focus elsewhere. As a consequence, the moral framing of climate issues might not simply lead to an increased moral motivation to solve the problem at hand, but rather a defensive and self-protective motivation to avoid solving it. This effectively means that moral communication is a double-edged sword by which a moral framing may have, at best, motivational as well as demotivational effects that cancel each other out; but at worst, a net demotivational effect.

2 Three potential ways to make communication of climate issues work

What can we learn from these recent strands of social-psychological research with an eye to communicating the moral core of climate issues in public discourse? The research we reviewed above suggests that appealing to people's morality will likely elicit inaction and a refusal to

improve (e.g., Täuber and Van Zomeren 2013). Furthermore, integrating these insights with what is known about moral motivation and its potency to motivate social action (Skitka and Bauman 2008; Van Zomeren et al. 2011, 2012), it appears that the success of a communication strategy using moral framing crucially hinges on whether the recipient of the message already shares the relevant values (Kutlaca et al. 2013). However, to the extent that people have a moral conviction that climate change requires action, they do not need to be persuaded anyway (e.g., 'preaching to the choir'; Kutlaca et al. 2013). On the other hand, to the extent that people do not have a moral conviction that climate change requires action, they will experience appeals to their morality as threatening. Consequently, the very people that need to be motivated to act will respond with the opposite behaviour intended by moral persuasion attempts: Denial, inaction, and a refusal to change behaviour.

This is a serious dilemma for practitioners. As Markowitz and Shariff (2012) argue, to the extent that "climate change fails to generate strong moral intuitions, it does not motivate an urgent need for action in the way that other moral imperatives do". But if attempts to generate moral motivation in people backfire by eliciting defensive responses and inaction (Stoll-Kleemann et al. 2001; Täuber and Van Zomeren 2013), how can this dilemma be solved? Fortunately, the very same research that identified the double-edged nature of moral communication also offers hints at solving it. In the following section, we suggest a number of potential solutions and propose a multidisciplinary research agenda to foster steps towards testing them.

2.1 Potential solution 1: non-moral framing of persuasive messages

The studies reviewed above (Täuber and Van Zomeren 2013) suggest a practical solution for situations in which communication is intended to stimulate action in terms of improving current behaviour, namely: Framing deficiencies in these domains in non-moral terms seems to be a suitable strategy to prevent defensive responses and thus to achieve the intended behavioural improvement or adjustment. For instance, stressing the aspect of competence and capability might be better suited to motivate nations to reduce their GHG emissions compared to making nations' current emissions look like a moral failure. Another example can be climate-relevant negotiations with relatively new economic powers. In the media, these nations' exploitation of nature is condemned as immoral. The above considerations suggest that rather than rattling about the moral inferiority of the rising economies, post-industrialized economies should focus the debate more on a lack of competency that can be solved in cooperation (i.e., sharing expertise on mitigating the consequences of industrialization).

This proposition receives support from other recent research: Does et al. (2011) showed that moral ideals (ought) are better suited for motivating the intended change in behaviour than moral obligations (must). Other research suggests that people can easily construe issues in either moral or non-moral terms. For instance, Van Bavel et al. (2012) demonstrate that people are "capable of flexibly shifting from moral to non-moral evaluations on a trial-by-trial basis". Consistent with research on the consequences of moral convictions (Skitka 2010; Van Zomeren 2013), when their participants were making moral evaluations, these were faster, more extreme, and perceived as more universally applicable compared to making non-moral evaluations. Thus, downplaying the moral core of climate issues in their communication may help to avoid the defensiveness that so often seems to kill the motivation to solve the issue at hand.

To some, this potential solution may appear to be a cowardish and even unrealistic one, given that climate issues are often viewed as inherently moral issues. Historically, of course, there are few issues that can be viewed as inherently moral. The process of moralization shows

that on a societal basis, issues that were previously construed as matters of mere preference—such as cigarette smoking—can evolve into values and thus become moralized in public discourse (Rozin 1999). For the U.S., Rozin (1999) exemplifies the process of moralization with cigarette smoking, fat, and drugs, each issue having been preferential once but eliciting strong moralized evaluations today.

The key point here is that, at least in the short run, communicating the non-moral core of climate issues may help to solve the paradoxical situation we identified with respect to communicators' success in motivating people to act. This suggestion resonates with actual communication strategies used in politics: In Germany, for instance, the introduction of electric mobility is framed mainly in economic terms, praising the innovation potential among engineers, the creation of new professions, and positive impact on the labour market (Deffke 2013).

2.2 Potential solution 2: value-identity fit

Although our first potential solution suggests downplaying any moralization in the communication of climate issues, our second potential solution suggests that value framing can work —- but we first need a better understanding of the conditions under which it works. For instance, one factor to be taken into account is to whom value framing is directed (i.e., who is the audience? Who are practitioners trying to convince?). For those with moral convictions on the issue, value framing equals a 'preaching to the choir' that does not add motivation to that which already exists (Kutlaca et al. 2013). In the morally heterogeneous audience that practitioners seek to persuade through communication, the challenge seems to be how to motivate those who sympathize but are not (yet) morally convinced of the need to act on behalf of the environment.

Research by Kutlaca et al. (2013) offers an important pointer to a solution of this dilemma. In their experimental research on a Dutch student movement, they varied value (vs no value) framing of a mobilization message, but also framed it as embedded in a specific or broader group identity (i.e., student or national identity). They found that a moralized message increased the predictive power of moral motivation among students who already shared the movement's values, but that this was not the case for those not sharing the movements' values. For the latter students, value-identity framing motivated them only when the value was framed as embedded in a broader, more inclusive type of identity (in this case the national, that is Dutch, identity). This suggests that, at least for those outside of the choir one may be preaching to, a focus on moralization in communication about climate issues needs to take into account a broader, more inclusive type of identity to which the relevant value can be linked. The reason for why this may be important is that such value-identity fit avoids any defensiveness based in potential conflict between individuals' own values and those of the specific group (for instance a social movement).

Yet, it appears that people often overlook that they share values and moral convictions because they are too focused on disparate identities. Stern et al. (1999) provide such an example for the case of environmentalism. Specifically, they found that movement supporters clustered in three separate groups along the lines of environmental citizenship, consumer behaviour, and policy support and acceptance. Whereas all those people shared the same values, their identities were fractured in reflection of how they expressed these values: If they expressed their pro-environmental attitudes through buying sustainable goods, they would not share an inclusive identity with those who participated in protest marches.

Consistent with this, recent research by Feinberg and Willer (2013) shows that contemporary environmental discourse is construed mainly around the care/harm aspect of morality (Haidt 2007; e.g., motivations to care, nurture, and protect). Notably, this resonates more with

liberals' moral intuitions. Conservatives, by contrast, are motivated more by the moral principle of purity (Haidt 2007; e.g., motivations to avoid disgust by keeping the moral community "clean"). The authors argue that the current polarization on environmental attitudes in the U.S. might partly be due to the match between moral intuitions and identity for liberals, and the mismatch for conservatives. Indeed, framing pro-environmental arguments in terms of purity (e.g., stressing how polluted and contaminated the environment has become and how important it is to clean and purify the environment) largely eliminated the difference in environmental attitudes that was evident among liberals and conservatives (Feinberg and Willer 2013, Study 3).

In sum, value-identity fit (i.e., the fit between "what we stand for" and "who we are") may provide a strong basis for collective action and social change. We consequently consider the promotion of value-driven identities a promising route to bypass the double-edged sword of moral communication. The above research (Feinberg and Willer 2013; Kutlaca et al. 2013; Stern et al. 1999), however, also indicates that value-driven identities should be fostered carefully by considering the match of values with existing identities, so as not to polarize people who actually share the same convictions. Based on our understanding of these processes so far, it seems that for people not sharing the same values, shared identities should be stressed and values be downplayed, whereas for people not sharing identities, shared values should be emphasized and identities should be downplayed. Thus, communication should be tuned towards the audience in order to bridge the gap between moral beliefs and action.

2.3 Potential solution 3: developing change-oriented moral convictions about climate issues

A final potential solution moves away a bit from the specific framing of climate issues itself and suggests a broader approach, namely to focus communication on antecedents of moral convictions. If we understand how moral convictions develop, communicative routes might be open to alter them in the long run. Unfortunately, no conclusive evidence on the determinants of moral convictions is available yet. In fact, Linda Skitka refers to this as "the million dollar question in this area of research" (personal communication). The degree to which individuals perceive the same attitude object in terms of a preference, convention, or a moral imperative varies strongly (Skitka 2010).

Indeed, while some people see an issue as inherently moral, other people's attitudes merely reflect preferences. The relevant target group for our third possible solution is the latter group: For people expressing preferences, social norms are the most important source of information. A person might support or oppose green electricity because his neighbours do, but would change her mind if the majority changed their opinion on green electricity. This implies that attempts to target moral convictions in the long run should focus on establishing social conventions. If neighbourhoods, communities, nations, or entities as the European Union explicitly state that mitigating the consequences of climate change is a social norm, this might be internalized by people belonging to such entities, representing a first step toward developing moral convictions on the issue.

It is important to note that the third solution focuses on moralizing an existing favourable opinion rather than on persuasion in the attitude-like meaning of the word. Research on the impact of norms on behaviour might valuably contribute to "engineering" such a strategy: Cialdini's work (Cialdini et al. 1990), for instance, suggests that it is important to actually see other people engaging in climate friendly behaviours (witnessing a descriptive norm), rather than simply knowing that this is what one should do (knowing an injunctive norm).

The internalization of social conventions not only alters perceptions of 'who we are' and 'what we stand for', but it also provides individuals with a sense of agency to challenge and

possibly change the social structure. For instance, research on social action points to beliefs about the group's efficacy to affect social change as reflecting a core motivation for social action (Van Zomeren et al. 2013). Stronger group efficacy beliefs may increase individuals' level of identification with the relevant group (Mazzoni et al. 2013). Indeed, violated moral convictions increase motivation for social action not only through identity concerns and perceptions of unfairness, but also through the experience of agency and empowerment (e.g., Drury and Reicher 2009; Van Zomeren 2013). Thus, one reason for developing moral convictions is to empower them.

Although such changes in group identity and ideology might be painful, there are advantages to such a strategy of "socially engineering" moral convictions: On the one hand, it may elicit conformity among those who perceive climate issues as a matter of mere preference. Notably, it might do so without eliciting the defensive responses associated with appeals to morality, because morality does not need to be stressed (see the example for electric mobility above). On the other hand, communicating climate issues as a social convention provides a powerful signal for people perceiving their convictions and values as not sufficiently represented by society: They learn that others, but not all, share their personal values. As such, the explicit communication of change-oriented social conventions about climate issues may provide a strong basis for the development of the more inclusive value-driven identities we discussed above.

Finally, we note that moral convictions have the ability to form and foster large-scale social categories that cross-cut existing ones in society. Through their focus on a core value or conviction, psychological groups can be built easily around them, independent of individuals' stances on other issues. Thus, moral convictions can easily become pillars of opinion-based groups (e.g., Bliuc et al. 2007) and social movements (Klandermans 1997). Moreover, moral convictions also promote proactive and prosocial behaviour, even when individuals are not part of the group they are acting upon. In line with this, solidarity-based action, or action among members of advantaged groups, crucially depends on individuals' moral motivation to act (Van Zomeren 2013). This is relevant when considering how substantially the consequences of climate change differ across our planet. People who keep a psychological distance from countries more severely affected by climate change compared to their own country will be less likely to engage in prosocial action (Markowitz and Shariff 2012). Here, moral convictions may play a unique role in creating new group identities that are based on shared moral convictions and thereby unite individuals from both disadvantaged and advantaged groups (Van Zomeren 2013).

We note that the latter suggestion ties in with the psychological strategies that have been suggested by Markowitz and Shariff (2012) to bolster the recognition of climate change as a moral imperative. Specifically, the authors suggest using existing moral values to promote a shared belief regarding the necessity of action among individuals with very different backgrounds. This suggestion is consistent with our proposition of value-driven identities in the short run, and with the development of moral convictions in the long run. We have extended this suggestion by arguing that where existing moral values are lacking, these might be introduced by governments, local politicians, or neighbourhoods as social conventions. Explicitly stating the inclusive entity's commitment to pro-environmental norms will trigger pro-environmental behaviour among those who have no moral attitude towards the issue, and it will signal that others share their view to people who have a moral attitude towards the issue.

3 Directions for future research

We offered three potential ways to avoid the negative effects of communicating the moral core of climate issues in public discourse. First, in the short run we suggested to avoid moralizing

the issue in order to avoid a defensive overkill. Second, we suggested that value framing could work in the short run as long as there is value-identity fit. And finally, in the long run we suggested to work toward developing moral convictions through communicating about social conventions (or group norms) on the issue.

We believe that these solutions cannot be rank-ordered according to their effectiveness or temporal frame. Rather, they might be employed in parallel, aiming at different audiences and different goals. For instance, recent meta-analytical research on persuasion and the attitude-behaviour gap suggests that pro-environmental behaviour is most efficiently predicted by a combination of theoretical models reflecting both self-interest and pro-social motivation (Bamberg and Möser 2007). This suggests that different framings might be tailored to different audiences in order to be most effective. People endorsing self-interest over pro-social motives might be persuaded by pragmatic framing (e.g., how much money can we save through energy conservation); while people endorsing pro-social motives over self-interest might be more open to moral framing. The audience addressed might be an extremely important moderator with respect to motivating behaviour.

Tying in with this thought, Bolderdijk et al. (2013) demonstrated that biospheric framing elicited more compliance with tyre checks among U.S. car drivers than economic framing—thus, people wanted to be seen as "green" rather than "greedy" under some circumstances. The authors speculate that their effects might depend on other relevant individual differences, such as cultural background and ideology. Indeed, moral convictions are defined as embedded in personal identity and may thus develop through social influence and through individual preferences. Appealing to the norms of the group one cares about may lead to internalizing these norms as individual goals, and people regulate their behaviour so as to conform to the group norms if they are committed to that group (Sassenberg and Woltin 2008). If choosing an individualistic route, movements may communicate environmental goals as relevant for the individual well-being, for instance by stressing hedonistic goals (Lindenberg and Steg 2007).

Thus, while the solutions we propose might seem opportunistic, they are consistent with recent research in the environmental domain (Bamberg and Möser 2007; Bolderdijk et al. 2013; Lindenberg and Steg 2007), and in the health domain (Leventhal 1970; cf. Good and Abraham 2007), indicating that a variety of disciplines and fields seem to converge in the notion that strategies aiming at motivating people to act must pay careful attention to the audience they are aiming at.

The current contribution serves to bring insights from a social-psychological perspective on the table in the hope to inspire, and engage with, researchers from other disciplines who struggle with similar, if not the same, questions. In their paper Markowitz and Shariff (2012) state that "Enhancing moral intuitions about climate change may motivate greater support for ameliorative actions and policies". As we have argued here, the very attempt to elicit moral intuitions in people who do not yet hold such moral attitudes toward climate change may backfire. This underlines that, in addition to generating insights into framing and communicating climate change-related messages, one of the biggest challenges at this point is to tackle antecedents of moral convictions.

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