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Increased climate change skepticism among farmers?

The roles of motivated cognition and social identity processes

Response to T. Landwehr et al. in GAIA 32/3 (2023): Climate change perceptions in Bavaria. Revealing the influence of socio-demographic and local environmental factors

Landwehr and colleagues (2023) surveyed climate change perceptions in Bavaria, focusing on the influence of socio-demographic and local environmental factors. They found that farmers exhibited higher climate change skepticism than other societal actor groups. In our attempt to explain these findings, we attribute climate change skepticism among farmers to motivated cognitions and social identity processes. Farmers may be motivated to deny climate change due to cognitive dissonance arising from perceptions of being especially affected. Consequently, a climate change skeptical group norm may have developed among farmers, shaping the attitudes and behaviors of individual group members, which is potentially intensified by perceived intergroup contrasts in political conflicts. We propose that climate-skeptical attitudes are context-dependent and can be changed through inducing intrapersonal conflicts or social identity-based interventions. Understanding farmers' group dynamics, motivated cognitions, and efficacy beliefs is crucial for effective climate change communication and policy implementation, in order to counter skepticism and promote pro-environmental action.

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Increased climate change skepticism among farmers? The roles of motivated cognition and social identity processes *GAIA* 33/2 (2024): 211–215 | **Keywords:** climate change perceptions, cognitive dissonance, collective efficacy, self-categorization, social identity, social norms

B ased on survey data from Bavaria, Landwehr and colleagues (2023) examined the relationships between climate change perceptions, socio-demographic factors (i. e., age, gender, education, and group affiliation), and local environmental factors (i. e., land cover conditions and local climate trends). The authors found stronger associations between social (versus environmental) factors and climate change perceptions,¹ including views on human versus natural causes and the perceived relevance of climate change. Particularly, farmers expressed more doubts about whether climate change is scientifically proven and caused by humans, when compared to respondents from other social groups (e.g., foresters and nature managers; Landwehr et al. 2023).

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© 2024 by the authors; licensee oekom. This Open Access article is licensed under a Creative Commons Attribution 4.0 International License (CC BY). https://doi.org/10.14512/gaia.33.2.3 These findings call for a deeper understanding of the role of social group membership in shaping the perceptions of climate change. We seek to address two questions raised in the original article:

- How can we explain farmers' heightened susceptibility to climate change skepticism compared to other societal actor groups? and,
- **2.** What are the potential intervention approaches to correct perceptions of climate change among polarized climate change skeptics?

We discuss potential answers to these questions through the lenses of the *Cognitive Dissonance Theory* (Festinger 1957, Mc-Kimmie 2015) and the *Social Identity Approach* (Tajfel and Turner 1979, Turner et al. 1987).

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¹ It is debated whether surveyed opinions genuinely reflect climate protection motivation and behavior (Bauske et al. 2022). However, there is a considerable body of research demonstrating that attitudes (directly and indirectly) affect behavior across different domains, such as climate behavior (e.g., Bamberg 2003). Similarly, numerous studies on social influence have shown that perceived social (e.g., group) norms influence pro-environmental behavior (e.g., Nolan et al. 2008, see Bergquist et al. 2023 for a recent metaanalysis). Consequently, it seems relevant to us to investigate perceptions and attitudes as determinants of climate protection behavior.

Motivated cognitions: Cognitive dissonance and efficacy perceptions determine what is (not) believed and done

Farmers' climate change perceptions may be rooted in conflicting cognitions regarding their effect on the environment. Compared to the other groups surveyed, farmers seem to depend more strongly on cultivating the land to make a living. They might be fully aware that maximizing the harvest comes at a cost to the environment. For example, farmers may recognize the detrimental consequences of using pesticides, yet they still use pesticides to ensure a successful harvest, which leads to conflicting cognitions. The Cognitive Dissonance Theory (Festinger 1957) posits that conflicting cognitions cause psychological tension that must be resolved. This tension can be resolved either by changing one's behavior (i.e., stopping the use of pesticides) or by changing one's cognition (i.e., denying the environmental harm of pesticides). These conflicting (dissonant) cognitions might be more pronounced for farmers given that transforming their agricultural practices could directly jeopardize their earnings. Indeed, it would be extremely challenging for farmers to change their behavior while maintaining a good harvest, particularly within a short timeframe. Therefore, we argue that, for farmers, it may be the most words, farmers may be motivated to deny or be skeptical about the drastic consequences of climate change to protect their sense of control.

In summary, the situation of farmers differs from that of other societal actor groups. They experience firsthand the effects of climate change on their fields and farmlands, indicated by declining earnings, yet they may perceive low collective control (as the group of farmers) to effectively address the problem. This can induce cognitive dissonance and a sense of helplessness, leading to increased climate change skepticism as a coping response.

Being a farmer as a group identity

The *Social Identity Approach* (Tajfel and Turner 1979, Turner et al. 1987) proposes that individuals derive a significant part of their self-concept from their affiliations with social groups. From this perspective, groups are not merely societal actors external to individuals; rather, they are an integral part of an individual's self-concept. The *Social Identity Approach* examines the circumstances under which people think, feel, and act as group members, rather than as unique individuals. Turner et al. (1987) specify that group-based cognitions, emotions, and behaviors are contingent

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obvious way out of cognitive dissonance to change their cognitions by adopting, for instance, a more skeptical position on the causes and consequences of climate change.

On a collective level, self-identifying as a farmer may serve as a means of coping with dissonant cognitions (McKimmie 2015). If farmers, for example, experience that other members of their social group reduce cognitive dissonance by increasing their climate change skepticism, they may be more likely to increase their own skepticism accordingly. At the same time, collective efficacy beliefs may account for motivated cognitions at the group level. Group members are motivated to perceive their groups as efficacious, as they gain and maintain a sense of control through their group (group-based control; Fritsche 2022). Environmental psychological research indicates that reminders of the threat of climate change can lead to perceptions of greater collective control (e.g., Hornsey et al. 2015). In contrast, low perceived collective efficacy may motivate group members to downplay the threat of climate change. Farmers, compared to other societal actor groups, are directly exposed to climate change every day. As they may perceive low collective efficacy in coping with this highly accessible threat (they cannot stop climate change alone), farmers may counter their helplessness by downplaying the threat. In other on self-categorization as members of cognitively accessible (*salient*) social categories, whereas personal cognitions, emotions, and behaviors are contingent on self-perceptions as distinct and unique persons. Individuals usually are members of different social groups. While some of these groups are more important for their self, others are less central, resulting in different levels of identification with social groups.

Experimental studies show that salient social identities (i. e., group memberships) significantly affect how we feel, act, and think (e.g., Haslam et al. 1999), including our perceptions of climate change. For example, Unsworth and Fielding (2014) randomly allocated study participants to two experimental conditions: half of the participants were reminded of their affiliation with a left-wing or right-wing political party (salience of political identity) before responding to questions on climate change perceptions, whereas the other half answered the questions directly without such a reminder (i.e., no salience of political identity). Results showed that right-wing (but not left-wing) participants reminded of their political identity were more prone to deny anthropogenic causes of climate change and were less supportive of climate change policies, compared to right-wing participants without this reminder. Applied to Landwehr et al.'s (2023) study, individuals who identify as farmers may find their social identity particularly salient when explicitly mentioning their profession in a survey. This salient social identity should manifest in the attitudes and behaviors of group members. Yet, what processes underlie the divergence in opinions, beliefs, and behaviors when comparing specific social identities (e.g., farmer identity) to others (e.g., gender identity)?

Identified group members conform to perceived social norms of their ingroup

Individuals represent their group (ingroup) in terms of the "group prototype"; in other words, the specific characteristics attributed to the group, such as ingroup attitudes, beliefs, goals, and norms (Turner et al. 1987). Group norms encompass descriptions of what members of a group commonly believe, feel, do (descriptive norms; Cialdini and Trost 1998), or what views, feelings, actions they commonly approve or disapprove (injunctive norms; Cialdini and Trost 1998). For the social identity "farmer," normative perceptions (e.g., Riley and Robertson 2022) may suggest that farmers are people who, unlike non-farmers, invest a lot of time and effort in planting, nurturing, harvesting, and cultivating farmland, having livestock, overcoming geographical or weather constraints (perceived descriptive norms), and appreciating stoic hard work and self-sufficiency (perceived injunctive norms).² In sum, accessible social norms guide the appraisals and intentions of group members, especially when they strongly identify with their group. As social influence rooted in social identity, group norms provide individuals with an orientation to align their goals, thoughts, and actions with those of the perceived ingroup prototype when expressing affiliation with their group.

Conforming to the norms of one's ingroup is a central process for experiencing and demonstrating a sense of control through one's social identity as a group member, particularly when one's sense of control is threatened (Fritsche 2022). Experimental evidence indicates that salient threats to control, such as the threat of climate change, increases conformity with perceived ingroup norms even in domains unrelated to the threat (Stollberg et al. 2017). For example, Barth et al. (2018) showed that the threat of climate change motivated student participants to engage in radical protest actions against a fictitious sexist professor when radical protest behavior was presented to them as the norm of their student ingroup. Furthermore, normative messaging has been proven effective in shaping pro-environmental behaviors (e.g., Vesely et al. 2022). Accordingly, Landwehr et al.'s (2023) findings of elevated climate change skepticism among farmers might reflect their conformity with the perceived ingroup norm of being collectively less convinced of the severe consequences of climate change. In light of these considerations, we hypothesize that the level of climate change skepticism individuals associate with the group of farmers (perceived farmer norm) should influence how much climate change skepticism these individuals themselves express when identifying with the farmer group.

Further explanation is needed to understand why it might be perceived as normative for farmers to be more skeptical about climate change. As discussed in the section on motivated cognitions, a farmer norm of being skeptical about climate change may have emerged as a means to reduce cognitive dissonance (McKimmie 2015) and to counter feelings of helplessness stemming from low collective efficacy beliefs (Hornsey et al. 2015). This formation of farmers' social norm may be reinforced by social identity processes. Turner et al. (1987) emphasized that social norms are dependent on the intergroup comparative context, involving perceptions of one's group relative to relevant comparison groups. If farmers perceive climate change skepticism as a shared attitude (i.e., similarity) among farmers, while comparison groups are seen as dissimilar in this regard, the likelihood of this perceived attitudinal contrast shaping farmers' norm should be increased.

Social accentuation (Corneille et al. 2002), that is, the automatic exaggeration of perceived differences between groups following categorization, further intensifies perceived contrasts between ingroup and outgroup. In Germany, the salient intergroup conflict between farmers and the governing Green Party may create a high-contrast context regarding climate change skepticism between the ingroup (farmers) and the comparison group (Green Party). This might polarize farmers' norms against the Green Party and "their" norm of climate change mitigation. Although, on the surface, this conflict is fought over realistic resources (e.g., government subsidies), underneath it seems to be fought over symbolic values (i.e., worldviews): "Urban, academic and cosmopolitan: The Greens could be seen as the natural opposite of many German farmers" (Pfeifer 2024). Hence, salient us versus them categorizations, particularly in times of political conflict, could accentuate the perception of opposing group goals and, consequently, norms.

How to overcome polarized climate change perceptions

The original article (Landwehr et al. 2023) proposes targeting polarized climate skeptics through informational campaigns and tailored communication. Sassenberg and Winter (2024) revealed how eliciting intrapersonal conflicts may help overcome polarized attitudes. Among others, inducing the salience of contradictory goals (e. g., keeping everything the way it is and adapting to change) or stereotype-inconsistent cognitions (e. g., the conservative protesting for climate justice) could unfreeze people's current stance or even move them to new positions. At the individual level, such cognitive interventions may be promising. Other intervention approaches may focus on social group dynamics. Concluded from the presented considerations, and in line with the *Social Identity Approach* referenced by Landwehr et al. (2023),

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² Norms should not be confused with stereotypes held by outgroup members (i.e., members from other groups) about the ingroup.

it is not the inherent *essence* of farmers to be more skeptical about climate change. Instead, flexible and volatile contextual factors (i.e., salient social identity, norm perceptions) can contribute to the reinforcement of such attitudes – but attitudes can change as the context changes. The optimistic outlook of the social identity perspective is that attitudes, even undesirable ones, are not fixed but can be changed through various social psychological processes:

People's social identities are malleable depending on salient social categories. For example, when people re-categorize to another group, they re-define themselves according to the "new" social identity (e.g., myself as a human, myself as a woman), aligning with different group prototypes potentially characterized by less skeptical norms. Socio-demographic information on professional group affiliation in the survey from Landwehr et al. (2023) may be related to social identity, for example, as farmers. However, this information cannot differentiate the extent of identification, which is essential for determining an individual's conformity to group norms. In other words, Landwehr et al. (2023) did not assess psychological processes related to social identity, but only speculated on them. Therefore, we recommend future studies to measure social identification with farmers as the strength of the bond to one's professional group.

Even within a given social identity (e.g., myself as a farmer), social norms are malleable. As discussed, one's perceived ingroup norms shift with the salient intergroup comparison context (Turner et al. 1987). For instance, Rabinovich et al. (2012) manipulated the comparative context by asking British participants to compare their national ingroup with either Swedes (upward comparison) or Americans (downward comparison) in terms of pro-environmental characteristics. Participants in the upward comparison condition perceived their British ingroup to be less environmentally friendly and reported lower pro-environmental intentions than those in the downward comparison condition. Likewise, farmers may perceive climate change skepticism as their group norm, especially when compared to groups that vehemently favor climate change mitigation. Conversely, when farmers do not contrast their group with an outgroup advocating for climate change mitigation, the perceived climate change skeptical norm among farmers may diminish in relevance. However, we can only speculate on farmers' self-perceived ingroup norms. In future studies, we recommend asking survey participants about their perceptions of climate change norms. In this examined context, we anticipate a heterogeneity of norm perceptions within the farmer group, as we would expect a sub-categorization into different farmer subgroups (e.g., organic farmers, conventional agriculture, factory farming, etc.) with specific and perhaps polarized subgroup norms. This heterogeneity is also reflected in Landwehr et al. (2023, figure 2), considering the high variance of farmer responses. To weaken the impact of a widespread climate change skeptical norm among farmers, interventions could either address individual farmers in their subgroup identity or emphasize normative diversity within the farmer group to challenge the perception of attitudinal consensus (i.e., norm).

3 In line with the *Social Identity Model of Pro-Environmental Ac-tion (SIMPEA;* Fritsche et al. 2018), acceptance of climate change should also depend on collective efficacy beliefs. Collective efficacy could either mean successfully initiating or preventing measures of climate change mitigation, depending on the perceived group norms. Farmers' perceptions of group agency (Fritsche 2022), relating to shared and autonomous goals, concerted and goal-directed actions, and actual effects in the real world, could elevate optimism about the achievability of challenging transformation tasks and reduce resistance to recognizing their necessity. We therefore recommend including measures of efficacy beliefs in future research. When addressing motivated cognitions through interventions, it is crucial to identify potential causes of resistance (e.g., realistic constraints) that might foster skeptical attitudes or norms among farmers, and then eliminate these causes. For example, financial compensation guaranteed by the state in the event of crop failure could make it easier for farmers to acknowledge the drastic and threatening consequences of climate change.

The study by Landwehr et al. (2023) is an exciting starting point for exploring group-specific perceptions of climate change. Future interdisciplinary cooperation should further substantiate, explain, and tackle the observed perceptions.

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