

Not everyone is average: The influence of accountability on pro-environmental behaviour across welfare groups.

Abstract

Research on climate change increasingly highlights the importance of consumer behaviour in reducing greenhouse gas (GHG) emissions. However, existing studies have mainly focused on either average consumers or the outsized objective environmental impact of high-welfare individuals, offering limited insight into how psychological factors shape pro-environmental behaviour across welfare groups. As a result, the relationship between welfare, psychological measures, and pro-environmental behaviour remains insufficiently understood. This study examines how individuals across welfare groups perceive self-accountability, agency, and efficacy, and how these psychological factors relate to pro-environmental intentions and behaviour across multiple consumption domains. Using a Dutch sample with a wide range of welfare levels, it also analyses how accountability is attributed to different societal actors and how welfare influences psychological predictors of behaviour in domains including fashion consumption, air travel, household heating, meat consumption, and green investment.

The findings show that perceptions of accountability to mitigate GHG emissions are broadly similar across welfare groups, with governments and large corporations seen as most accountable and individuals as least accountable. Welfare had no direct effect on perceived self-accountability, agency, or efficacy. These psychological factors were generally positive predictors of pro-environmental intentions and behaviour across domains. However, their predictive power weakened in specific domains, with the largest intention-behaviour gaps emerging in unbounded, identity-driven domains such as air travel and fashion consumption. Notably, it is also in these same domains that welfare showed significant direct effects on behaviour, with higher-welfare individuals engaging in more environmentally harmful consumption. While psychological measures were largely stable across welfare levels, this pattern suggests that welfare becomes more influential precisely in the domains where psychological factors are least explanatory. Overall, the results indicate that pro-environmental behaviour is shaped by both psychological processes and structural conditions, highlighting the need for integrated approaches that combine behavioural interventions with policies addressing consumption inequalities. Finally, the findings indicate that climate interventions should focus on reducing the perception-reality gap in environmental impact. This may be achieved by aligning perceptions of "normal" consumption (through improved public information and reduced socio-economic segregation), strengthening carbon literacy (through education, point-of-decision information, and footprint comparison tools), and improving awareness of emission differences across income groups. At the same time, psychological interventions alone are unlikely to be sufficient in domains such as air travel and fashion consumption, where behaviour is strongly shaped by structural conditions. In these domains, policies such as aviation taxes, frequent flyer levies, improved access to low-carbon alternatives, and measures that slow fashion cycles while promoting more pro-environmental and appealing alternatives may be more effective.

Research Questions & Model

- R01:** How do individuals across welfare groups perceive accountability (of themselves and others) as well as their own agency and efficacy in mitigating GHG emissions?
R02: To what extent do perceived self-accountability, efficacy and agency influence pro-environmental intentions and behaviour among individuals across welfare levels in the five consumption domains of fashion consumption, air travel, household heating, meat consumption and green investment?

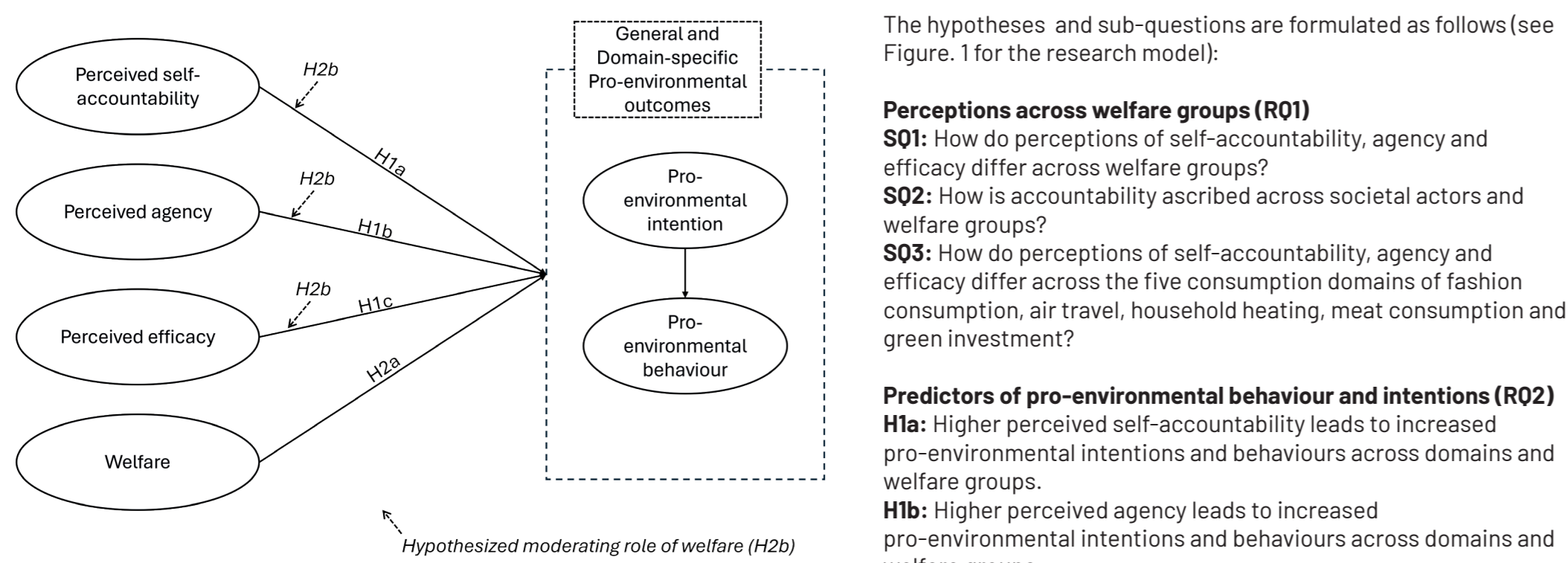


Figure 1. The research model.

- H1c:** Higher perceived efficacy leads to increased pro-environmental intentions and behaviours across domains and welfare groups.
H2a: Increases in welfare leads to decreased pro-environmental behaviour and intentions.
H2b: Welfare moderates the relation between perceived accountability, agency, and efficacy and pro-environmental intentions and behaviour, such that the positive relation between perceived accountability, agency, and efficacy and pro-environmental intentions and behaviour is stronger among individuals with lower welfare levels than among individuals with higher welfare levels.
H3: The strength of associations between perceived self-accountability, agency, efficacy and pro-environmental intentions and behaviour varies across consumption domains.

Method

Participants.

A total of 536 participants were recruited in the Netherlands through online (Prolific; $n = 314$) and in-person ($n = 222$) sampling. In-person recruitment focused on affluent neighbourhoods to ensure sufficient representation of high-welfare individuals. After excluding incomplete responses ($n = 156$) and failed attention checks ($n = 12$), the final sample consisted of 368 participants (38.0% female, $M_{age} = 34.8$ years, $SD = 12.7$; 85.1% Dutch). Based on household income, participants were classified as low-income ($n = 97$), middle-income ($n = 165$), or high-income ($n = 106$).

Procedure and measures.

After providing informed consent, participants completed an online survey examining pro-environmental behaviour and intentions. Five behavioural domains were selected based on the most environmentally impactful consumption categories among Dutch households: fashion consumption, air travel, meat consumption, household heating, and green investment. The first four domains were derived from research on high-impact consumption categories, with the most environmentally consequential subdomain selected within each category. Green investment was added because of its potential environmental impact and relevance for wealthier individuals.

Pro-environmental behaviour was measured within each domain using two complementary approaches: (1) behavioural quantity measures (e.g., number of flights taken or clothing items purchased) and (2) behavioural description alignments, assessing the extent to which pro-environmental behavioural descriptions reflected participants' own behaviour. Pro-environmental intentions were measured as intended changes in consumption-related greenhouse gas (GHG) emissions over the next 12 months, both within the five domains and at a general level.

Subsequently, participants reported their perceived self-accountability, agency, and efficacy regarding GHG emission reduction, both generally and within each behavioural domain. They also evaluated how responsibility for reducing emissions should be distributed across societal actors. Finally, ecological worry and demographic variables, including welfare indicators, were assessed. Ethical approval was obtained from the Human Research Ethics Committee of Delft University of Technology.

Results

Perceptions of accountability, agency and efficacy across welfare groups

All welfare groups reported significantly similar mid-range levels of perceived self-accountability, agency, and efficacy to reduce GHG emissions. When welfare was measured continuously rather than in groups, no significant main effect of welfare on intentions to mitigate GHG emissions, perceptions of self-accountability, agency nor efficacy was found either. These results show that individuals' welfare did not significantly change how they viewed their self-accountability, agency nor efficacy, nor did it significantly change their intentions to change their GHG emissions.

Across all welfare groups, people saw large companies as most accountable for mitigating GHG emissions, followed by international institutions and national governments tied for second place. Low-welfare individuals were seen as least accountable in all welfare groups, followed by average consumers and rankings of themselves sharing the next lowest level of accountability. This suggests people across welfare levels did not distinguish much between their own accountability and that of the average consumer. Welfare had little influence on ascribed accountability (see Figure 2).

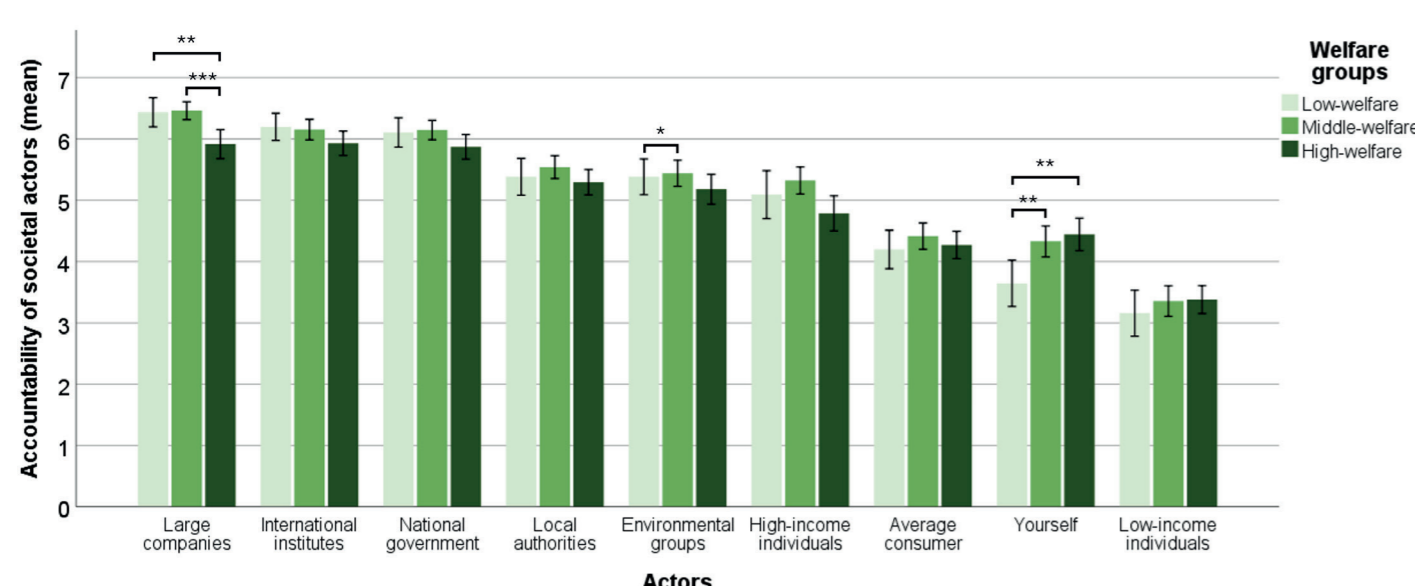


Figure 2. The accountability of societal actors ascribed across the three different welfare groups.

Results

Effects of self-accountability, agency and efficacy on pro-environmental intentions and behaviour

Increased perceptions of self-accountability, agency, and efficacy led to more pro-environmental intentions and behaviour, although their influence was strongest for domain-specific behaviours and intentions rather than for general climate intentions (see Table 1). General intentions to alter GHG emissions were significantly predicted by self-accountability and ecological worry, but these variables explained only a modest proportion of the variance. Increases in agency and efficacy to mitigate GHG emissions, as well as increases in welfare did not significantly influence intentions to alter GHG emissions. Within domains, self-accountability, agency, and efficacy generally improved pro-environmental intentions and behavioural alignment. However, higher welfare levels were linked to some reductions in pro-environmental behaviour in terms of concrete behavioural quantities. The relation between psychological perceptions and pro-environmental intentions and behaviour differed across behavioural domains.

In the fashion consumption domain, an intention-behaviour gap emerged clearly. Self-accountability, agency, and efficacy significantly predicted stronger intentions to reduce clothing purchases and more pro-environmental behavioural descriptions, yet they did not significantly predict the actual number of clothing purchased in the previous three months. Welfare, however, did have a direct effect, as increases in individuals' welfare led to significantly more clothing purchased.

A similar intention-behaviour gap was found for the air travel domain. Self-accountability, agency, and efficacy predicted strong intentions to fly less and more pro-environmental behavioural alignment. However, self-accountability and efficacy did not significantly predict the actual number of flights taken. Instead, welfare was the only significant predictor of short-distance flights, with higher-welfare individuals taking more flights. Higher welfare also predicted an increase in long-distance flights. Agency was the only psychological factor of this research linked to long-distance flights, with higher agency associated with fewer long-distance flights.

In the household heating domain, self-accountability and efficacy again only predicted intentions to reduce household heating use and more pro-environmental behavioural alignment, showing another intention-behaviour gap. Similar to the air travel domain, high perceptions of agency did significantly predict household heating behaviour. However, in the household heating domain an increase in perceived agency did not affect the intended household heating use. Welfare did not significantly influence the set thermostat temperature nor the intended household heating use, but increases in welfare did lead to participants significantly reporting less pro-environmental household heating self-alignment.

In the meat consumption domain, higher perceptions of self-accountability, agency, efficacy, and ecological worry all positively predicted both intentions and behaviour, while increased welfare only predicted a small significant reduction in the intended meat consumption. This suggests that dietary behaviour may be especially responsive to psychological factors.

The green investment domain revealed that higher welfare levels significantly increased the likelihood of possessing investments. A notable finding was that approximately one third of participants with investments did not know what proportion of their investments was green. Among participants who did know the percentage of green investments in their portfolio, higher perceptions of self-accountability, agency, efficacy, and ecological worry were all associated with a higher share of green investments, while increases in welfare only predicted a small significant reduction in the intended share of green investments.

Across the psychological variables examined in this thesis, self-accountability emerged as the most consistent predictor of pro-environmental intentions and behaviours overall. It was significantly associated with the largest number of pro-environmental outcome measures across the study and showed the strongest correlations with the other psychological constructs, namely agency, efficacy, and ecological worry. This pattern suggests that self-accountability may occupy a relatively central position within the network of psychological factors examined. However, when considering concrete pro-environmental behaviours specifically (e.g., the number of flights taken, dietary choices, or other observed behavioural measures), agency was associated with the largest number of outcomes. This indicates that while self-accountability may be particularly important for explaining pro-environmental engagement across both intentions and behaviours, agency may play a more prominent role in translating pro-environmental motivations into tangible actions.

Table 1. The influence of self-accountability, agency, efficacy, and welfare on pro-environmental intentions and behaviour.

	Intentions to mitigate GHG emissions	Number of clothes purchased	Number of long-distance flights taken	Set thermostat temperature	Amount of beef eaten	Percentage of green investments
Self-accountability	$\beta = -.12$	$\beta = -.003$	$\beta = -.003$	$\beta = -.04$	$\beta = -.25$	$\beta = .48$
Agency	$\beta = -.05$	$\beta = -.05$	$\beta = -.12$	$\beta = -.13$	$\beta = -.12$	$\beta = .20$
Efficacy	$\beta = -.07$	$\beta = -.01$	$\beta = .02$	$\beta = -.02$	$\beta = -.22$	$\beta = .51$
Welfare	$\beta = -.07$	$\beta = .11$	$\beta = .23$	$\beta = -.04$	$\beta = .08$	$\beta = .01$

Conclusion

One of the most important findings of this thesis is that individuals across welfare groups perceived themselves as similarly accountable for mitigating greenhouse gas (GHG) emissions, despite large differences in their objective environmental impact. High-welfare individuals, whose consumption patterns contribute disproportionately to emissions, generally did not view themselves as substantially more accountable than the average consumer. This finding is societally relevant because self-accountability emerged as one of the strongest predictors of pro-environmental intentions and behaviour. Together, these results suggest that reducing the gap between perceived and actual self-accountability among high-welfare individuals may represent an important opportunity for GHG mitigation. If individuals with the largest environmental footprints develop a stronger awareness of their disproportionate impact, meaningful emission reductions may be achieved without requiring behavioural change from the population as a whole.

At the same time, the findings demonstrate that increasing accountability alone is unlikely to solve all environmental challenges. Although self-accountability, agency, and efficacy were associated with more pro-environmental intentions and behaviour in many domains, these relations often weakened when actual behavioural quantities were examined. In domains such as air travel and fashion consumption, welfare was a much stronger predictor of environmental impact than psychological variables. This suggests that environmental behaviour is shaped not only by what people believe and intend, but also by the opportunities and constraints created by their lifestyles and purchasing power. Climate policy therefore cannot rely solely on motivating individuals; it must also address the structural conditions that enable high-emission consumption.

Another noteworthy finding is that participants reported relatively limited intentions to reduce their environmental impact. This thesis differed from much prior research by measuring intentions within several behavioural domains and by using a bidirectional scale that allowed for both increases and decreases in pro-environmental behaviour, with "keep as is" as a meaningful midpoint. Across domains, participants generally reported intentions close to maintaining current behaviour, with only small shifts toward greater mitigation. This suggests that the intention-behaviour gap in prior research may be partly inflated by measurement approaches that implicitly encourage reports of increased pro-environmental intention. These results also imply that incremental intentions alone may be insufficient for substantial behavioural change, highlighting the potential importance of interventions that disrupt existing behavioural routines and reduce inertia in high-impact domains. The findings also suggest that climate interventions may be more effective when they target specific behavioural domains rather than pro-environmental behaviour in general. Each behavioural domain had a unique combination of drivers and challenges, indicating that there is no single pathway to pro-environmental behaviour. When people with very different environmental impacts all see themselves as average consumers, climate action cannot rely on intentions alone but must also disrupt the perceptions, structures and routines that enable high-emission consumption.

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