

Social Psychological Bulletin

(Don't) Mind the Gap? The Role of Current Versus Desired State of Goal Attainment in Predicting Sustainable Behavior

Anna O. Kuzminska¹ , Kaja Glomb² , Piotr Błaszczuk³ , Agata Gasiorowska³ ,
Marta Roczniowska³ 

[1] *Faculty of Management, University of Warsaw, Warsaw, Poland.* [2] *Faculty of Management and Social Communication, Jagiellonian University in Krakow, Krakow, Poland.* [3] *Institute of Psychology, SWPS University, Warsaw, Poland.*

Social Psychological Bulletin, 2026, Vol. 21, Article e19807, <https://doi.org/10.32872/spb.19807>

Received: 2025-09-15 • **Accepted:** 2026-03-14 • **Published (VoR):** 2026-10-23



Handling Editor: Stylianos Syropoulos, School of Sustainability, College of Global Futures, Arizona State University, Phoenix, AZ, USA

Corresponding Author: Anna O. Kuzminska, Faculty of Management, University of Warsaw, Szturmowa 1/3, 02-678 Warsaw, Poland. E-mail: a.kuzminska@uw.edu.pl

Supplementary Materials: Data, Preregistration [see [Index of Supplementary Materials](#)]



Abstract

Understanding what motivates individuals to engage in sustainable behavior is essential for advancing sustainable development goals (SDGs). Drawing on the cybernetic model of behavior regulation, this research investigates how the perceived gap between one's desired level of societal progress towards sustainability and the current societal reality stimulates individuals' action toward sustainability. Across two studies, we found that individuals' desired state—not the current state—was the strongest predictor of both their willingness (Study 1) and actual engagement (Study 2) in sustainable behavior. Interestingly, individuals remained highly motivated to act sustainably even when SDGs were perceived as largely achieved. These effects extended beyond environmental concern to two other SDGs: health promotion and public safety. This suggests that, within the context of our studies, sustainable behavior seems to be meaningfully driven by personal goal alignment rather than current goal achievement in a society alone. Our findings offer a novel application of the cybernetic model to sustainable behavior and highlight the importance of interventions that connect sustainable actions with individuals' personal values, aspirations, and



This is an open access article distributed under the terms of the [Creative Commons Attribution 4.0 International License](#), CC BY 4.0, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

identity. For policymakers and practitioners, this implies that fostering a sense of personal ownership and relevance of SDGs may be more effective than emphasizing societal progress alone.

Keywords

sustainable behavior, sustainable development goals, cybernetic model of behavior regulation, goal-directed behavior

Highlights

- Desired level of societal sustainability progress predicts sustainable behavior more strongly than perceptions of current progress.
- Motivation to act sustainably remains high even when sustainability goals are perceived as largely achieved.
- The findings generalize across environmental protection, health promotion, and public safety domains.

In recent years, discussions surrounding sustainable development goals (SDGs) have gained momentum, emphasizing the need for concerted efforts to tackle economic, social, and environmental challenges. According to the Europe Sustainable Development Report (Lafortune et al., 2024), if current trajectories persist, the European Union (EU) is poised to miss achieving a significant portion of its SDG targets by 2030. Among the SDGs currently experiencing stagnation or even regression are those pertaining to environmental concerns, such as sustainable cities and communities, responsible consumption and production, and climate action. However, while we agree with Chater and Loewenstein (2023) that top-down, systemic (“s-frame”) approaches by governments, policymakers, and corporations are pivotal in driving systemic change, individual (“i-frame”) engagement remains equally crucial. The realization of these goals hinges on widespread citizen acceptance and active behavioral engagement (Dubois et al., 2019). Citizens can pressure policymakers to prioritize chosen issues or allocate resources toward SDG-oriented initiatives. Still, campaigns promoting recycling, sustainable transportation, or resource conservation depend on individuals voluntarily changing their everyday habits. Hence, in this project, we examined one potential predictor of individuals’ sustainable behavior, specifically a discrepancy between the desired and current state of goal attainment in society.

Despite a seemingly widespread endorsement of SDGs, such as climate action or clean water and sanitation for personal and collective well-being (IPSOS, 2021), a paradoxical disconnect exists between this support and tangible individual action. For example, while 60% of Polish respondents expressed concerns about climate change and believed citizens can mitigate its effects, the actual level of sustainable behavior in Poland remains relatively low (Dymnicka et al., 2023). Climate-driven weather extremes

increasingly cause forest fires, floods, and droughts, harming farmers' production capacity (Arora, 2019). However, concrete mitigation measures, including limits on nitrogen emissions and water usage, frequently face resistance from farmers (Tanno & Liakos, 2024). Sustainability initiatives such as 15-minute cities or C40 Cities proposals (e.g., limiting meat consumption and flights) consistently encounter public opposition due to concerns about their impact on profits or individual freedoms (Hernández-Morales, 2023).

The context surrounding such opposition is multifaceted and may originate from a distrust in policymakers (Ciziceno & Pizzuto, 2022), conflicting interests across different societal groups, or misguided policy designs, including burdening citizens and small businesses rather than large corporations (Chater & Loewenstein, 2023). Regardless of these factors, it is crucial to understand how to promote individuals' engagement with issues that transcend their short-term self-interests, whether through adopting more sustainable daily choices or pressuring policymakers to regulate industry leaders. This is critical because achieving the SDGs relies on numerous small-scale behaviors, such as proper recycling, reducing car and plane use, and decreasing meat consumption—individual actions that contribute up to 72% of global greenhouse emissions (Dubois et al., 2019). Therefore, a policy-only approach proves insufficient.

Discrepancy Between the Current and Desired Attainment of SDGs

To understand the dynamics of citizen engagement with the SDGs, we utilized the cybernetic model of behavior regulation (Carver & Scheier, 1981, 2012). In this framework, behavior is regulated through feedback processes in which individuals compare the perceived current state with a valued standard and adjust their actions when discrepancies are detected. When a gap emerges between “where things are” and “where they should be,” it generates an error signal that can motivate efforts to reduce this discrepancy (Carver & Scheier, 2012). Previous research suggests that discrepancy-reducing feedback loops are more common than discrepancy-enlarging feedback loops. For instance, a perceived discrepancy predicted behavioral intention to change eating habits after reading a persuasive message (Tykocinski et al., 1994) and influenced various consumer choices (Mandel et al., 2017).

In the context of sustainability, individuals may perceive a discrepancy between the desired societal importance of SDGs and their assessment of the current level of SDG achievement. Such a discrepancy can serve as a motivational signal (Carver & Scheier, 2002), particularly for individuals who place high importance on sustainability. Because regulatory processes depend on the presence of a valued standard, discrepancies should be most consequential among those for whom sustainability goals are central, and weaker among those who place little importance on them. Therefore, in this project, we propose that perceived gaps between current societal progress and desired levels of pro-

gress towards sustainability goals shape individuals' motivation to engage in sustainable behavior.

Understanding the impact of perceived discrepancies on individuals' SDG engagement is important for several reasons. First, it offers insights into the motivational complexities surrounding SDG-promoting behavior. Although a cybernetic model (Carver & Scheier, 1981) predicts that substantial gaps between the current and desired progress should encourage goal-directed actions, some empirical results suggest an opposite trend. For instance, studies show that disparities between actual and ideal body images correlate with maladaptive eating and exercise behaviors, suggesting that perceived gaps may trigger discouragement rather than motivated action (Anton et al., 2000). While this example involves individual-level behavior, it illustrates a broader psychological mechanism where large perceived gaps can trigger disengagement rather than action.

This project tests the applicability of the cybernetic model to the domain of sustainable behavior, and investigates what matters more for engagement: individual desires or observed societal progress, indirectly reflecting the collective importance of given goals. Understanding how perceived discrepancies impact SDG engagement can inform targeted interventions aimed at enhancing participation. For example, if high perceived discrepancies drive action more than the current conditions, strategies highlighting these disparities in public discourse could effectively foster citizens' sustainable behavior. Conversely, if societal importance proves most influential, campaigns should focus on building awareness of these goals' value. This is crucial given reports suggesting reaching SDGs is at risk (Lafortune et al., 2024), emphasizing the need for effective strategies to strengthen citizens' engagement.

Bridging Attitudes and Actions: The Campbell Paradigm

When studying human behavior, it is important to focus on actions rather than just attitudes, as a significant discrepancy exists between what people *say* and what they *do*. Attitudes and declarations may reflect idealized beliefs or intentions aligned with societal expectations or personal aspirations, hence self-reported behavior may differ from actual actions (Campbell, 1963). For example, someone might claim to support sustainability but consistently fail to recycle or reduce their carbon footprint. Studying behavior provides a more accurate and actionable understanding of human drives, which is essential for developing effective policies and strategies. Therefore, our assessment of sustainable behavior in this project follows Campbell's paradigm (Bauske et al., 2022; Kaiser et al., 2010).

The Campbell paradigm (Campbell, 1963) is a theoretical framework that reinterprets the classic three-component model of attitudes, highlighting the compensatory relationship between latent attitude and the costs of specific behaviors (Byrka et al., 2009; Kaiser, 2019). Campbell's paradigm assumes that behaviors carry different costs—contextual constraints affecting behavior, including effort, time, financial resources, or systemic

obstacles. Consequently, individuals choose behaviors whose costs correspond to their underlying attitudes. This is particularly relevant for sustainable behavior, where both personal attitudes and context matter (Liobikienė & Minelgaitė, 2021). For instance, those with a strong commitment to sustainability may undertake costly, time-consuming activities, like organizing protests or cycling to work in adverse weather. Conversely, individuals with weaker commitment would engage only in easy, socially desirable behavior, such as reusing grocery bags (Kaiser & Byrka, 2011).

Operationally, in Campbell's framework, a set of behaviors is hierarchically calibrated within a studied sample as a Rasch scale, in which participants indicate whether or how often they engage in a given behavior (Bond & Fox, 2001). Each behavior is assigned a difficulty parameter reflecting its empirically defined behavioral cost, corresponding to how demanding a given behavior is within a particular population, as indicated by the proportion of individuals who perform it. Thus, the probability of engaging in a behavior depends on the specific community in which the data are collected. Stronger attitudes are linked to higher probabilities of performing behaviors with higher empirically established costs (e.g., daily sunscreen use is more probable among individuals with stronger rather than weaker health concerns). Put simply, behaviors that fewer people perform are treated as more costly, whereas widely performed behaviors are treated as less costly. This measurement approach proved valid (Kaiser et al., 2018) and highly predictive of sustainability-related choices, such as energy consumption and membership in environmental organizations (Arnold et al., 2018).

Research Questions and Hypotheses

Following this theorizing, our project examines how willingness to engage in sustainable behavior is influenced by discrepancies between individuals' preferred level of societal achievement of SDGs and the perception of its current level of attainment. We hypothesize that (H1) a level of self-reported sustainable behavior would be higher for the high desired state of goal realization, compared to the low desired state of goal realization. Further, we predict that (H2) the desired state of goal realization interacts with the currently attained state such that, (H2a) when the desired state of goal realization is high and the currently attained state is low, individuals exhibit a higher level of willingness to engage in sustainable behavior compared to a situation where the desired state of goal realization is high and the currently attained state is also high; and (H2b) when the desired state of goal realization is low and the currently attained state is also low, individuals exhibit a lower level of willingness to engage in sustainable behavior compared to a situation where the desired state of goal realization is low but the currently attained state is high. Given previous research showing that values and self-identity strongly relate to engagement in pro-environmental behaviors (van der Werff et al., 2013), we expect that (H3) an individual's willingness to engage in sustainable behavior is higher

for the high desired state of goal realization, compared to the low desired state of goal realization.

Analytical Approach

In this project, the dependent variables were operationalized as latent constructs using the Dichotomous Rasch Model Marginal Maximum Likelihood Estimation (MMLE). All item wordings, measurement scales, and the results of the Rasch analyses (including model fit and item statistics) are presented in the Supplementary Materials (SM).

To examine the consequences of discrepancies between the current and desired states of SDG attainment in society, we used analysis of variance in Study 1 and polynomial regression with response surface analysis (RSA; [Shanock et al., 2010](#)) in Studies 1–2. This approach allows us to model the joint effects of two predictors jointly—including their interaction and potential nonlinear components—on an outcome variable. Desired and current states of goal attainment (manipulation checks in Study 1 and independent variables in Study 2) served as two independent variables, whereas engagement in intended (Study 1) or past (Study 2) goal-directed behavior was the dependent variable.

The resulting coefficients were visualized in three-dimensional response surface plots. Compared to simple difference scores, RSA offers a more nuanced test of (in)congruence because it captures nonlinear relationships and directional asymmetries between predictors, rather than reducing them to a single discrepancy index ([Shanock et al., 2010](#)). Moreover, RSA allows interpretation beyond strict congruence effects, including main and curvilinear effects of each predictor ([Breetzke & Wild, 2022](#)). More details on the analysis and the formal criteria that a response surface must meet to support a true congruence interpretation ([Humberg et al., 2019](#)) are presented in the SM.

Overview of the Studies

Across three studies, we explored how the perceived discrepancy between the current state of sustainability in society and its desired level impacts individuals' (actual and hypothetical) engagement in sustainable behavior. In experimental Study 1 ($N = 659$), we examined how such discrepancies in a fictitious society affect U.S. participants' self-reported willingness to engage in pro-environmental actions. In Study 2, using a representative U.S. sample ($N = 1012$), we checked whether the effects found in Study 1 extend to predicting people's actual engagement in goal-directed behaviors based on the discrepancy between the desired and perceived levels of goal attainment in their society. To test the robustness of the effects observed in Study 1, in Study 2, apart from looking into environmental support, we added two other SDG goals: living longer, healthier lives, and safety on the streets. These two studies were preceded by a pilot study ($N = 439$; reported in SM), conducted on a sample of Polish students, which yielded results similar to those in Study 1.

This project adheres to the ethical guidelines specified in the APA Code of Conduct and was approved by the Ethics Committee for Human Research of SWPS University, Faculty of Psychology in Wrocław (decision no 01/P/03/2023). We report all measures, manipulations, exclusions, and the method of determining the final sample size in all studies. Studies 1 and 2 were preregistered. Detailed materials and manipulations for all the studies are provided in the SM. Data are available (see [Kuzminska et al., 2024](#)). In all studies, data collection was completed before data analysis.

Study 1

Study 1 aimed to provide an initial test of whether a discrepancy between one's desired direction of sustainable development and the current state of affairs prompts individuals to engage in behaviors that move them closer to that desired state. In this study, we focused only on pro-environmental behaviors. We conducted a preregistered study in which we manipulated the desired state of goal realization (high vs. low) and the currently attained state of this goal realization (high vs. low) and measured participants' self-reported behaviors aimed at environmental goals. We used hypothetical scenarios to experimentally manipulate the desired and current states. While the use of hypotheticals has faced criticism for lacking external validity and not accurately reflecting real-life behaviors ([Bostyn et al., 2018](#)), it has also been shown to provide insights into individuals' decision-making processes while allowing for systematic modification of variables of interest, enhancing the ability to infer causality ([Delavande & Manski, 2015](#)).

We preregistered hypotheses, analyses, sample size, and exclusion criteria (see [Kuzminska et al., 2023a](#)).

Materials and Methods

We calculated the sample size using Monte Carlo power simulation in MPlus. Given the effect for the interaction found in the pilot study ($\eta_p^2 = .013$), assuming a power level of .80, and an alpha level of .05, the sample size should be a minimum of 600 participants. Factoring for potentially failed attention checks, we aimed to recruit 660 participants.

We recruited $N = 659$ U.S. participants from the Prolific Academic. We excluded the data from 70 participants who failed to answer any of the three attention checks correctly. The final sample comprised 589 participants (49.1% women, 49.1% men, and 1.9% other/not specified; age $M = 41.26$ years, $Mdn = 38$, $SD = 13.40$). Sensitivity analysis using Monte Carlo simulations showed that this sample size had a power of .80 to detect an effect of $\beta = .06$ ($\eta_p^2 = .01$) at an alpha level of .05, given our analysis plan.

After providing informed consent and completing sociodemographic and attention check questions, participants were randomly assigned to one of the four conditions in a 2(desired state of goal realization: high vs. low) $\times$ 2(current state of goal realization in the

society: high vs. low) between-subjects design. In each condition, participants were asked to read a short description of a hypothetical society and imagine that they lived in the described society and had the preferences described in that scenario, and to depict the scenario as vividly as possible to create a detailed mental image of this society (see SM for full wording of the scenarios). Depending on the condition, participants were asked to imagine living in a society where the environment is well protected and significant financial resources are allocated to this aim ($n = 184$), or that they are living in a society where the environment is not well protected, and a very small amount of financial resources is allocated to this aim ($n = 167$). Further, they were asked to imagine that they are a person who believes environmental support is one of the most important goals for a society to follow, that this is a societal issue that should be crucially focused on in the society ($n = 182$) or that they are a person who believes environmental support is not a very important goal for a society to follow, that there are other societal issues their society should currently focus on ($n = 169$). After that, participants were presented with 14 items chosen from the General Ecological Behavior Scale (GEBS; Kaiser & Wilson, 2004), e.g., “I ride a bicycle or take public transportation to work or school,” and asked to indicate whether they would be willing to engage in the behavior in a scenario they have read, using a scale ranging from 1 = *never* to 5 = *always* or 1 = *yes* to 2 = *no*, depending on the item (with a “not applicable” answer available). We then calculated latent-variable values from the Rasch model, which served as our dependent variable ($M = 0.21$, $Mdn = 0.26$, $SD = 2.77$, person reliability = .82). Detailed information on this analysis is presented in the SM.

Next, participants were asked to think about the scenario they read previously and answer two questions that served as manipulation checks: “What is the current level of environmental protection in the society described in the scenario” ($M = 5.00$, $SD = 4.22$), and “What is your desired level of environmental protection in this scenario” ($M = 5.79$, $SD = 4.21$), measured on a 10-point scale (1 = *very low* to 10 = *very high*).

Results

Hypotheses Testing

The manipulation check (see SM) demonstrated that the manipulation of both the current and desired state of environmental protection was effective.

To test the hypotheses concerning the relationship between the discrepancy in the desired and current state of environmental protection in society and pro-ecological behavioral intentions, we conducted an ANOVA in a 2(desired state of goal realization: high vs. low) $\times$ 2(current state of goal realization in the society: high vs. low) between-subjects design using the values obtained from the Rasch analysis as the dependent variable (see SM for details on Rasch analysis). We found a significant effect of the desired state of goal realization, $F(1, 585) = 1629.80$, $p < .001$, $\eta_p^2 = .736$, such that an individual's level of willingness to engage in goal-directed behavior is significantly higher when the desired

state of goal realization is high ($M = 2.54, SD = 1.54, 95\% \text{ CI } [2.36, 2.71]$) compared to low ($M = -2.21, SD = 1.30, 95\% \text{ CI } [-2.36, -2.05]$). The main effect of the current state was significant but much weaker, $F(1, 585) = 5.17, p = .023, \eta_p^2 = .009$. Furthermore, contrary to our expectations, the interaction between the two factors was not significant, $F(1, 585) = 0.92, p = .338, \eta_p^2 = .002$.

Despite a nonsignificant interaction, we further tested our preregistered detailed hypotheses' post hoc comparisons with Bonferroni correction for multiple comparisons (see Table 1 and Figure 1). We did not find significant differences in the level of pro-environmental behavior between the condition in which the desired state of goal realization is high and the current state is low, compared to situations where both the desired and current states are high. Similarly, we did not find significant differences between the conditions in which both the desired and the current states of goal realization are low compared to situations where the desired state is low but the current state is high.

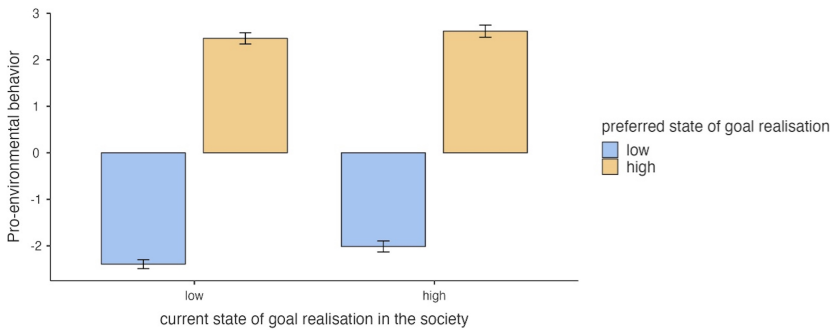
Table 1
Post Hoc Comparisons With Bonferroni Correction in Study 1

Current state	Desired state	Current state	Desired state	$t(585)$	$p_{\text{Bonferroni}}$	Cohen's d	95% CI for d
low	high	high	high	-0.94	.999	-0.11	[-0.34, 0.12]
low	low	high	low	-2.27	.143	-0.27	[-0.50, -0.03]
low	low	high	high	-30.19	< .001	-3.52	[-3.74, -3.29]
low	high	high	low	26.91	< .001	3.14	[-3.37, -2.91]

Further, we found that the level of the pro-environmental behavior was significantly higher when both the desired and the current states of goal realization are high ($M = 2.62, SD = 1.59, 95\% \text{ CI } [2.35, 2.87]$) compared to a situation where both are low ($M = -2.39, SD = 1.67, 95\% \text{ CI } [-2.58, -2.20]$). Subsequently, we found that if individuals consider environmental protection as an important societal goal, but society does not, they are willing to engage in goal-oriented behavior more ($M = 2.46, SD = 1.49, 95\% \text{ CI } [2.22, 2.70]$) than when society finds this goal important, and individuals do not ($M = -2.01, SD = 1.41, 95\% \text{ CI } [-2.25, -1.78]$).

Figure 1

Bar Plot for the Levels of Willingness to Engage in Pro-Environmental Behavior in Four Experimental Conditions in Study 1



Note. Bars represent standard errors of the mean across four conditions.

Response Surface Analysis

We conducted polynomial regression with response surface analyses (Shanock et al., 2010) to examine the role of congruence and incongruence between current and desired states for individuals’ willingness to engage in pro-environmental behavior. Both predictors were centered around 5.5 (the midpoint of the 1–10 scale). The regression coefficients and surface parameters are presented in Table 2, and the response surface is depicted in Figure 2.

Table 2

Response Surface Results for the Effect of the Current State-Desired State Congruence on the Level of Self-Reported Pro-Environmental Behavior (Study 1)

	Label	<i>b</i>	<i>SE</i>	95% CI	
Unstandardized regression coefficients for models					
	Intercept	−0.83***	0.17	−1.16	−0.51
	X	0.01	0.01	−0.02	0.04
	Y	0.54***	0.01	0.51	0.57
	X2	0.001	0.01	−0.02	0.02
	XY	0.001	0.001	−0.01	0.01
	Y2	0.03**	0.01	0.01	0.05
Position of first principal axis					
	p10	−530.15	4787.29	−9913.06	8852.75
	p11	−101.96	495.25	−1072.64	868.72

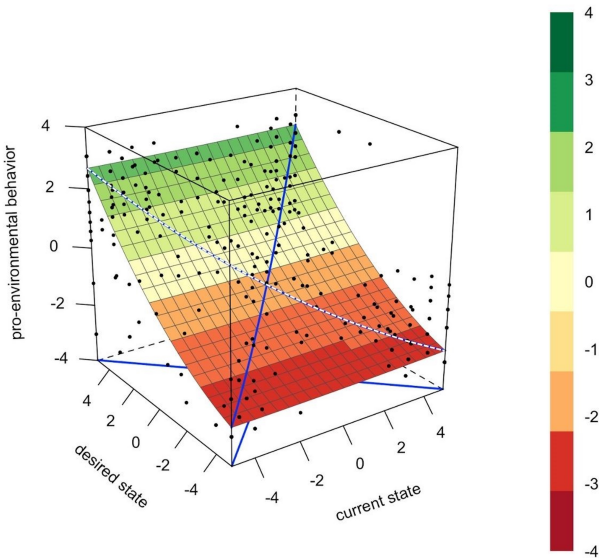
	Label	<i>b</i>	<i>SE</i>	95% CI	
Shape of surface along lines					
LOC	a1	0.55***	0.02	0.51	0.58
	a2	0.03***	0.01	0.02	0.05
LOIC	a3	−0.53***	0.02	−0.57	−0.49
	a4	0.03***	0.01	0.02	0.05

Note. Outcome variables: willingness to engage in pro-environmental behavior. LOC = line of congruence; LOIC = line of incongruence; X = current level of environmental protection in the society, Y = desired personal level of environmental protection. See SM for more information on the interpretation of the coefficients p10-p11 and a1-a4.

p* < .01. *p* < .001.

Figure 2

Response Surface Plot of Interaction Between the Current and Desired State of Attainment of Environmental Goals on Willingness to Engage in Pro-Environmental Behavior in Study 1



Following Humberg et al. (2019), we formally tested whether the data supported a congruence effect—that is, whether behavioral intentions are highest when current and desired states are aligned and decrease symmetrically as discrepancy increases. Two of the required conditions were not met, indicating that the pattern does not reflect a classic congruence effect. Thus, strict congruence between current and desired states was not the primary driver of behavioral intentions.

We have further interpreted the results for exploratory purposes (Breetzke & Wild, 2022). The desired level of environmental protection (Y) showed a strong positive linear association with willingness to engage in pro-environmental behavior, accompanied by a smaller positive quadratic effect. Substantively, this means that individuals who desired higher levels of environmental goal attainment reported stronger pro-environmental intentions, and this increase became slightly more pronounced at the highest levels of desired attainment. In contrast, the perceived current state (X) showed no meaningful main effect and did not interact with the desired state in the regression model.

Inspection of the response surface parameters further clarifies this pattern. Along the line of congruence (LOC)—that is, when current and desired states are equal—behavioral intentions increased as both values increased (positive a_1 ; see Table 2). In other words, individuals who both perceived and desired high levels of environmental protection reported the strongest willingness to act. The curvature along this line (a_2) was positive but comparatively small, indicating only a modest nonlinear amplification at higher levels (see Figure 2).

More importantly, effects along the line of incongruence (LOIC) revealed an asymmetrical discrepancy pattern. The negative a_3 parameter indicates that willingness to engage in pro-environmental behavior was stronger in the *deficit* condition (when the desired level exceeded the perceived current level) than in the *excess* condition (when the current level exceeded the desired level). Substantively, perceiving that society falls short of one's environmental aspirations was associated with heightened behavioral intentions. The positive curvature parameter (a_4) suggests that both types of discrepancy were associated with somewhat stronger intentions than would be expected based on linear effects alone, although this curvilinear component was relatively modest.

In sum, Study 1 shows that the desired state of goal attainment is the primary driver of engagement in goal-directed behaviors. Although the current goal attainment in society showed a statistically significant effect, it was comparatively weak. Individuals reported stronger behavioral intentions when both the desired and current levels were high rather than low, suggesting that alignment matters primarily at higher levels of importance. Crucially, these intentions were stronger when individuals perceived that they valued environmental goals more than society (a deficit pattern) compared to when they did not. Overall, the findings highlight the central role of personal aspirations: willingness to act appears to depend more on how strongly individuals endorse environmental goals than on how positively they evaluate society's current performance.

Study 2

Study 1 examined the interplay between the actual and desired state of realizing a sustainable development goal in a hypothetical situation and found that the desired state is the strongest predictor of the willingness to engage in goal-directed behavior. Such an

approach, although allowing us to have an otherwise difficult to estimate insight into the causal nature of the observed relationships, has been criticized for low predictive power (Bostyn et al., 2018). The problem could have been further exacerbated by a need to imagine one's own preferences regardless of the actual environmental attitudes held by participants, as well as the state of goal attainment in a described society. Hence, in Study 2, we investigated a similar relationship, this time referring to the actual rather than a hypothetical situation by asking participants how they viewed the state of realization of a particular goal in their society and which state they desired. To test the robustness of the effects, apart from pro-environmental behaviors, we included two other SDGs: living a longer, healthier life and physical safety on the streets. The formulation of these goals was based on the operationalization of SDGs proposed by Kryś et al. (2022), who developed a set of goals that are more culturally sensitive compared to the original framework. We selected the three goals above due to their varying levels of relevance to individuals: health goals are highly personally relevant; street safety affects people on both personal and community levels; and environmental protection is a more long-term and abstract concern, arguably more relevant at the societal level than the individual level. To reduce participant fatigue, participants were randomly assigned to answer questions on only one of the three goals. The measurement of behavior aimed at achieving the three selected sustainable development goals was again based on Campbell's model (Kaiser et al., 2010).

We preregistered hypotheses, analyses, sample size, and exclusion criteria (see Kuzminska et al., 2023b).

Materials and Methods

The a priori power analysis conducted with G*Power (Faul et al., 2007) revealed that to detect even a small effect ($f^2 = .02$) of five predictors in linear multiple regression with 80% power and given an alpha of .05, we need to recruit at least 647 participants. As we also wanted to test the moderation by the type of goal and by regulatory focus for exploratory purposes (see SM), we decided to increase the sample size and recruit $N = 1012$ U.S. participants from Prolific Academic between 23 August 2023 and 28 August 2023, constituting a sample representative in terms of gender, age, and ethnicity. Ninety-two participants failed one or more attention checks embedded in the study and were excluded from the analysis. The final sample included $N = 920$ participants (47.3% men, 50.7% women, 2.0% other/not reported; age $M = 45.92$, $Mdn = 46$, $SD = 15.94$; political alignment: 24.6% Republicans, 55.5% Democrats, 14.8% other political party, and 5.1% not interested in politics). Sensitivity analysis using Monte Carlo simulation showed that this sample size had a power of .80 to detect an effect of $\beta = .08$ ($\eta_p^2 = .016$) at an alpha level of .05, given our analysis plan.

This study was conducted as part of a larger data collection. After providing written informed consent, participants were asked to complete, among others, the Regulatory

Focus Questionnaire (Higgins et al., 2001), Regulatory Mode Questionnaire (Kruglanski et al., 2000), and one of the three following measures: (a) the GEBS (Kaiser & Wilson, 2004) measuring self-reported behaviors coherent with the *environmental support* goal ($n = 311$); (b) Health Performance Scale (Byrka & Kaiser, 2013) measuring self-reported behaviors coherent with *living healthier, longer lives* goal ($n = 310$); and (c) Safety on the Streets Scale developed specifically for this project ($n = 299$). Additionally, we have added four items to each scale to measure self-reported behaviors aimed at systemic change, such as voting and petitioning (Chater & Loewenstein, 2023). Each of the above scales consists of 54 items that ask individuals to determine whether they engage in a particular behavior using a scale ranging from 1 = *never* to 5 = *always* or 1 = *yes* to 2 = *no*, depending on the item (with a “not applicable” answer available). The latent variable from the Rasch model, calculated separately for each scale, served as our dependent variable (Bond et al., 2020; Rabbitt, 2018). Finally, we asked them to indicate the state of a respective goal realization in their society that they would want and the current state of goal realization in their society (in randomized order), using a scale from 1 = *very low* to 10 = *very high*. These two items served as independent variables in this study (see the SM for the wording of all the items used in this study).

Results

To test our hypotheses, we conducted polynomial regression with response surface analyses (Shanock et al., 2010) to examine the relation between current state-desired state congruence and incongruence and an individual’s willingness to engage in goal-related behaviors.

The regression coefficients and surface parameters are shown in Table 3, whereas Figure 3 includes the combined effects of the current and desired state of goal realization. We evaluated the model using the checklist from Humberg et al. (2019), and the RSA did not demonstrate the congruence effect. Therefore, as shown previously, we interpreted the results for exploratory purposes. As in Study 1, we found a linear main effect of the desired state (b2), but the quadratic term of the same variable (b5) was not significant. Moreover, unlike in the previous studies, the current state of goal realization was associated with the willingness to engage in goal-related behavior, as we found both positive linear (b1) and quadratic (b3) terms for this variable. Moreover, we found a weak interaction between the current and desired state of goal realization (b4). Finally, we found a significant linear effect on the congruence line and a significant quadratic effect on the incongruence line.

Table 3

Response Surface Results for the Effect of the Current State-Desired State Congruence on the Level of Self-Reported Goal-Related Behavior (Study 2)

	Label	<i>b</i>	<i>SE</i>	95% CI for <i>b</i>	
Unstandardized regression coefficients for models					
	(Intercept)	−0.36***	0.05	−0.46	−0.26
	X	0.05*	0.02	0.001	0.09
	Y	0.07***	0.02	0.04	0.11
	X2	0.01*	0.01	0.002	0.02
	XY	−0.01*	0.01	−0.03	−0.001
	Y2	0.01	0.01	−0.002	0.02
Position of first principal axis					
	p10	−21.15	30.70	−81.32	39.02
	p11	−0.63	0.36	−1.34	0.07
Shape of surface along lines					
LOC	a1	0.12***	0.02	0.08	0.15
	a2	0.01	0.01	−0.01	0.02
LOIC	a3	−0.03	0.04	−0.10	0.05
	a4	0.03**	0.01	0.01	0.05

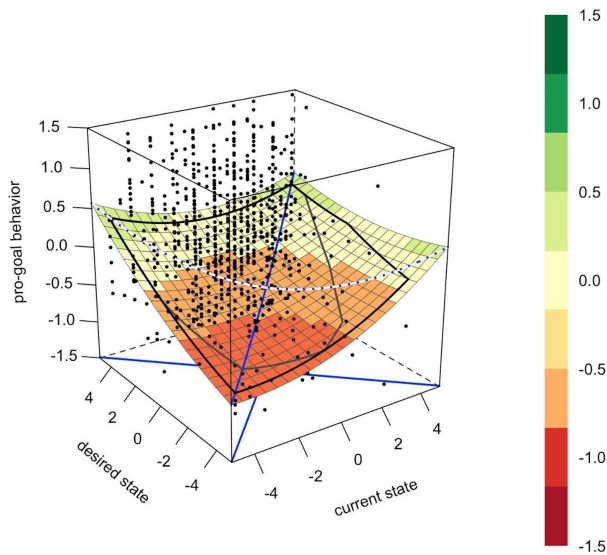
Note. Outcome variable: engagement in goal-related behavior. LOC = line of congruence; LOIC = line of incongruence; X = current level of goal realization in the society, Y = desired personal level of goal realization. See SM for more information on the interpretation of the coefficients p10-p11 and a1-a4.

p* < .05. *p* < .01. ****p* < .001.

The surface analysis revealed that, similar to Study 1, we found a linear positive slope on the LOC, as indicated by significant a1 and nonsignificant a2. This suggests that the congruence on the high levels of current and desired goal realization is associated with a higher willingness to engage in goal-related behaviors than the congruence on low levels. Additionally, we observed a significant positive curvature of the LOIC, indicating a nonlinear relationship between incongruence and the willingness to engage in goal-related behaviors. The graphical representation of this result, depicted along the dashed line in Figure 3, suggests that the highest engagement in goal-related behaviors can be expected in the case of both types of incongruence (deficit and excess), whereas the lack of significance of the a3 parameter indicates that none of them are linked to stronger behaviors more than the other.

Figure 3

Response Surface Plot of Interaction Between the Current and Desired State of Attainment of Social Goals on Goal-Related Behavior in Study 2



In summary, we showed that when the desired state of goal attainment is higher, the person's engagement in goal-directed behavior is also higher and this relationship is true regardless of whether the current state of goal attainment is low or high. In addition, we found that people show greater engagement in goal-directed behavior when perceiving congruence at high levels of the current and desired states of goal attainment than congruence at low levels of the current and desired states of goal attainment. Finally, in this study we found that individuals show higher engagement in goal-directed behavior when there is a discrepancy between the desired and the currently attained state, regardless of whether the desired state exceeds the current state or vice versa. However, this conclusion should be taken with caution, as only a few participants indicated that the current state of goal realization exceeded their desired state. Additional analyses described in the SM showed that the overall pattern of polynomial effects was largely robust across different aims and motivational orientations, with only limited moderation effects and a positive main effect of locomotion on willingness to engage in goal-related behavior.

General Discussion

In three studies (one described in the Supplementary Materials), we investigated how perceived discrepancies between the current state of sustainability in society and its desired level impact individuals' engagement in sustainable behavior. Results showed that the desired state was the strongest predictor of both hypothetical (Study 1) and actual, self-reported (Study 2) engagement in pro-environmental behavior. Even when the current state of goal achievement in a society was high, people continued to declare a high engagement in sustainable behavior. However, in Study 1, if the desired state was low, people's willingness to engage in sustainable behavior was also low, regardless of the current state of this goal in their society. In Study 2, this pattern looked slightly different: high engagement in goal-related behaviors was observed for both types of incongruence (deficit and excess). These results could suggest that even individuals skeptical toward the studied SDGs might be influenced by the societal concern placed on their achievement and consequently adopt appropriate behaviors.

There are at least two distinct interpretations of the predominant effect of desired state observed in the current project for explaining people's intended and actual behaviors. First, people are mostly unaware of societal context and focus on their own preferences (resulting in a uniform main effect of the desired state). Second, these results could occur even if people do in fact take the societal state into account, but the feedback loop that assesses the level of discrepancy goes beyond the current state of affairs. Below, we discuss these alternative explanations in more detail.

The Role of Self-Identity and Personal Norms in Predicting Sustainable Behavior

Our results suggest that engagement in sustainable behavior may hinge more heavily on the personal relevance of the goals rather than the perception of a broader societal context (i.e., where we currently are). These results are in line with previous studies showing that strong personal norms towards pro-environmental behaviors were highly predictive of behavioral intention (De Groot et al., 2021; e.g., Joanes, 2019; Onwezen et al., 2013). Hence, these results could suggest the lack of applicability of the cybernetic model for predicting sustainable behavior based on the discrepancy between current and desired levels of goal attainment. In other words, the obtained results do not support the idea that high goal attainment in society would crowd out individuals' attitudes towards sustainability. Referring to the Campbell paradigm, high goal attainment might even serve as a "negative cost" for sustainable behavior, making it easier for everyone to (a) engage in such behaviors and (b) report that they consider them important, as social norms alleviate the associated costs.

Emphasis on personal significance might be grounded in individuals' inclination to engage in behaviors that are close to their identity (i.e., whether they identify with a

given societal goal or not). This tentative explanation suggesting a focus on individual desires in predicting sustainable behavior is indirectly supported by a vast body of literature that documents the significant role people's values and identity play in predicting their environmental engagement (Van Der Werff et al., 2013). Environmental identity was shown to be a mediator between values and pro-environmental behaviors—an effect shown to be even stronger when the self was activated (Verplanken & Holland, 2002). Similar effects were observed for self-construals. Individuals characterized by a strong metapersonal self-construal (a sense of interconnectedness with all living beings) were more likely to report engagement in pro-environmental conservation actions and have a strong environmental concern compared to those low on this trait (Arnocky et al., 2007). Such results were also observed in studies using the expectancy-value framework, where personal values (alongside expectancy) proved to be highly predictive of hypothetical and actual commitment to act on behalf of a social movement organization (Feather & Newton, 1982).

It is also plausible that the current state of society was not perceived by our participants as salient for their own efforts toward sustainability. People might find it difficult to envision the impact of their own actions on a societal scale or consider the current societal state as a sum of citizens' behaviors. Indeed, Sparkman et al. (2022) demonstrated that Americans strongly underestimate national environmental concern and support for climate change mitigation policies, sustaining a false social reality shaped by personal political orientation, conservative local norms, and conservative media consumption. As a result, the distance between the current state of goal realization in a society and one's personal sphere of influence might have led participants to disregard that broad context when considering their goal-directed behavior. In future research, it could be verified whether contextualizing the current and desired states on a comparable level would result in similar effects. It is possible that by anchoring the current state to something more proximal and tangible, such as the state of environmental protection in one's immediate community, individuals may find it easier to grasp the significance of both their actions and the current situation.

The Role of Time Perspective in Feedback Loops

The second possible explanation for our results is that people do consider the societal state, but it does not lead to the outcomes we predicted based on the cybernetic model (Carver & Scheier, 1990). It is possible that, similar to findings showing higher engagement in healthy habits among individuals who experienced a smaller discrepancy between their actual and ideal body images (Anton et al., 2000), a high level of SDG goal achievement in society may actually motivate sustainable actions by demonstrating that such a state is attainable, while a low level might lead to goal disengagement (Carver & Scheier, 1998).

Another explanation concerns the input function individuals use when engaging in the comparison process within the feedback loop. Conceptualizations of cybernetic control processes (Carver, 2018; Carver & Scheier, 2002) suggest that the input function reflects the current level of goal realization. As Carver (2018) states, “Control theory adds the explicit assumption that such regulation also entails perceiving what the present circumstance is with respect to the goal, and assessing whether this circumstance does or does not currently match the goal” (p. 139). However, it is plausible that for some goals, the input function is based on a predicted future state, leading to an anticipatory discrepancy. In other words, SDGs are arguably never fully achieved. When considering their goal engagement, individuals may recognize that even if goal realization is currently high, it could easily deteriorate in the future if efforts to maintain this state are reduced. This aligns with the idea that people’s behavior in response to current success may sometimes be directed toward maintaining the status quo, i.e., preventing regression from +1 to 0, even among promotion-focused individuals (Higgins, 2018). Thus, when the current level of sustainability is high, people may remain motivated to engage in goal-directed behaviors to maintain this desirable state. Similarly, when evaluating the current societal state of goal achievement, individuals may consider dynamic rather than static conditions. For example, they may focus on ongoing changes such as government actions, prevailing ideologies, or changing social norms. This angle is supported by prior research (e.g., Sparkman & Walton, 2017), which shows that individuals’ pro-environmental actions were more strongly affected by a dynamic (“how things are changing”), rather than static norms (“how things are”).

From a theoretical perspective, this observation suggests that feedback loops may in some circumstances elicit motivational vigor by incorporating various time perspectives, such as forecasting future discrepancies rather than solely evaluating present ones. An indirect support for the potential role of an assumed time perspective in evaluating discrepancy comes from studies that demonstrated a positive correlation between future orientation—an inclination to pursue long-term goals (Corral-Verdugo & Pinheiro, 2006)—and sustainable behavior. These behaviors included water conservation in Mexico (Corral-Verdugo & Pinheiro, 2006), sustainable consumption in France and the United States (Urie & Kilbourne, 2011), and the choice of public transportation over commuting by car in the United States (Joireman et al., 2004).

Future research could investigate what individuals focus on (i.e., what constitutes the input function of choice) when engaging in the comparison process for pursuing SDGs. Do they solely evaluate the current situation, or does a particularly volatile goal—such as environmental support—immediately prompt imagining potential future states and trigger anticipatory discrepancy in the event of current inaction? Such considerations could be relevant for other spheres of human functioning where present goal realization does not guarantee its maintenance in the future. Such goals might include health and happiness. It is likely that people assess their current health- or happiness-benefiting

behaviors as an investment in future outcomes, thereby maintaining these behaviors as a strategy to minimize the “desired-current” gap, not only in the present but also down the line.

Practical Implications

Our results highlight the motivational power of individuals' desired societal states: people seem to be more likely to engage in sustainable behavior when they align with their personal values and aspirations, regardless of how well the goal is currently being realized in society. This suggests that communication strategies should not solely emphasize the urgency of environmental crises or the extent of progress made but should also activate personal relevance by framing sustainability as a means to achieve individuals' own visions of a better future. Indeed, [Feinberg and Willer \(2013\)](#) found that rephrasing the pro-environmental message to include the concept of purity increased conservatives' environmental concern.

Second, these insights can support community-level initiatives, local governance, and corporate sustainability efforts by highlighting the importance of fostering internalized motivation over external incentives alone. Promoting shared visions of sustainable futures at the grassroots level may thus be a powerful lever for enabling cleaner production and behavioral shifts at scale.

Another strategy for potential intervention that is suggested by our results is the use of methods increasing people's shared reality with others within a society ([Echterhoff et al., 2009](#)). Individuals who share a strong sense of collective identity with their community or nation might be more likely to perceive sustainability issues that affect this community as personally relevant. In line with this prediction, shared reality has been shown to be achievable on various levels—local and global—depending on the type of content people are exposed to ([Ledgerwood & Wang, 2018](#)). Perhaps promoting a global shared reality could, therefore, be useful in encouraging personally costly but societally beneficial behaviors.

Limitations and Future Research

There are several limitations of our current research that should be considered in future studies. First, we focused on only a few SDGs. However, by doing so, we may have overlooked differences across specific spheres of sustainability. The SDGs encompass a range of subgoals addressing diverse issues such as biodiversity conservation, climate action, and access to clean water, among others. Individuals may be more or less likely to engage in behaviors related to different goals. Future research could explore these nuances by investigating how engagement varies across different sustainability domains.

Further, in Study 2, the stated desired state of affairs as well as the reported pro-goal behaviors might have been a result of an individual's commitment to sustainability.

Participants with a stronger commitment to studied goals may both report a higher desired state and evaluate the current state as lower, amplifying the observed effects. Future research could address this limitation by incorporating more objective measures of the societal state of sustainable development, rather than relying solely on participants' subjective perceptions. A longitudinal research design aimed to track changes in participants' behaviors and attitudes over time could also offer deeper insights into robustness and causality of these effects.

We have previously mentioned the expectancy-value models (Eccles & Wigfield, 2002; Feather & Newton, 1982), the studies on which demonstrate the positive role of personal values in predicting individual engagement in goal-directed behaviors. However, studies using this framework show that an interaction between values and expectancies, or “beliefs about how one will do on different tasks or activities” (Eccles & Wigfield, 2002, p. 110), is a better predictor of goal engagement than either values or expectancies alone. Hence, one important caveat to explore in future research is the role of beliefs related to self-efficacy in a goal domain or an individual perception of systemic constraints related to potential goal achievement as moderators of goal engagement.

Finally, our research designs rely on self-reports, rather than directly observed behavior. It is uncertain whether the identified relationships would hold when individuals face momentary choices involving effort, time, or personal cost. To enhance ecological validity, future research could employ incentive-compatible or real-effort task designs that capture concrete actions, such as behavioral environmental protection paradigms (Lange & Dewitte, 2021), to assess whether the reported effects extend to observable sustainable behavior.

Funding: This research has received funding from the Norway Grants 2014–2021 operated by the National Science Centre (Poland) under Project Contract No 2019/34/H/HS6/00597 (GRIEG) entitled “Bridging Psychology with Societal Development Science: Fifty Countries Research into the Relation Between Folk Theories of Societal Development and Ideal Types of Well-Being.” This funding source was not involved in study design, in the collection, analysis, and interpretation of data, in the writing of the report, and in the decision to submit the article for publication.

Acknowledgments: The authors would like to thank the members of the GRIEG project (“Bridging Psychology with Societal Development Science”) for their valuable questions and comments during project meetings, which contributed to the development of the research presented in this article.

Competing Interests: The authors have declared that no competing interests exist.

Author Contributions: Anna O. Kuzminska—Conceptualization | Methodology | Validation | Formal analysis | Investigation | Data curation | Writing – original draft | Writing – review & editing. Kaja Glomb—Conceptualization | Methodology | Validation | Formal analysis | Investigation | Writing – original draft | Writing – review & editing | Visualization. Piotr Błaszczyk—Investigation | Data curation | Writing – review & editing. Agata Gasiorowska—Conceptualization | Methodology | Software | Validation | Formal analysis | Investigation | Resources | Data curation | Writing – original draft | Writing – review & editing | Visualization | Project administration. Marta Roczniowska—Conceptualization | Methodology | Validation | Resources | Data curation | Writing – review & editing | Funding acquisition | Project administration.

Ethics Statement: This project adheres to the ethical guidelines specified in the APA Code of Conduct and was approved by the Ethics Committee for Human Research of SWPS University, Faculty of Psychology in Wrocław (decision no 01/P/03/2023).

Data Availability: All data are available on OSF (see [Kuzminska et al., 2024](#)).

Supplementary Materials

For this article, the following Supplementary Materials are available:

- Preregistration Study 1 (see [Kuzminska et al., 2023a](#))
- Preregistration Study 2 (see [Kuzminska et al., 2023b](#))
- Data (see [Kuzminska et al., 2024](#))

Index of Supplementary Materials

Kuzminska, A., Gasiorowska, A., Glomb, K., & Roczniowska, M. (2023a). (*Don't mind the gap?*)

Study 1 [Preregistration Study 1]. AsPredicted. https://aspredicted.org/96Q_SYC

Kuzminska, A., Gasiorowska, A., Glomb, K., Błaszczyk, P., & Roczniowska, M. (2023b). (*Don't mind the gap?*) *Study 2* [Preregistration Study 2]. AsPredicted. https://aspredicted.org/J8L_L8F

Kuzminska, A. O., Glomb, K., Błaszczuk, P., Gasiorowska, A., & Roczniowska, M. (2024). (*Don't mind the gap? The role of current versus desired state of goal attainment in predicting sustainable behavior* [Data]. OSF. <https://osf.io/u8z67>

References

- Anton, S. D., Perri, M. G., & Riley, J. R. (2000). Discrepancy between actual and ideal body images: Impact on eating and exercise behaviors. *Eating Behaviors*, 1(2), 153–160. [https://doi.org/10.1016/S1471-0153\(00\)00015-5](https://doi.org/10.1016/S1471-0153(00)00015-5)
- Arnocky, S., Stroink, M., & DeCicco, T. (2007). Self-construal predicts environmental concern, cooperation, and conservation. *Journal of Environmental Psychology*, 27(4), 255–264. <https://doi.org/10.1016/j.jenvp.2007.06.005>
- Arnold, O., Kibbe, A., Hartig, T., & Kaiser, F. G. (2018). Capturing the environmental impact of individual lifestyles: Evidence of the criterion validity of the general ecological behavior scale. *Environment and Behavior*, 50(3), 350–372. <https://doi.org/10.1177/0013916517701796>
- Arora, N. K. (2019). Impact of climate change on agriculture production and its sustainable solutions. *Environmental Sustainability*, 2(2), 95–96. <https://doi.org/10.1007/s42398-019-00078-w>
- Bauske, E., Kibbe, A., & Kaiser, F. G. (2022). Opinion polls as measures of commitment to goals: Environmental attitude in Germany from 1996 to 2018. *Journal of Environmental Psychology*, 81, Article 101805. <https://doi.org/10.1016/j.jenvp.2022.101805>
- Bond, T. G., & Fox, C. M. (2001). *Applying the Rasch model: Fundamental measurement in the human sciences*. Lawrence Erlbaum Associates.
- Bond, T. G., Yan, Z., & Heene, M. (2020). *Applying the Rasch model: Fundamental measurement in the human sciences* (4th ed.). Routledge.
- Bostyn, D. H., Sevenhant, S., & Roets, A. (2018). Of mice, men, and trolleys: Hypothetical judgment versus real-life behavior in trolley-style moral dilemmas. *Psychological Science*, 29(7), 1084–1093. <https://doi.org/10.1177/0956797617752640>
- Breetzke, J., & Wild, E.-M. (2022). Social connections at work and mental health during the first wave of the COVID-19 pandemic: Evidence from employees in Germany. *PLoS One*, 17(6), Article e0264602. <https://doi.org/10.1371/journal.pone.0264602>
- Byrka, K., & Kaiser, F. G. (2013). Health performance of individuals within the Campbell paradigm. *International Journal of Psychology*, 48(5), 986–999. <https://doi.org/10.1080/00207594.2012.702215>
- Byrka, K., Kaiser, F. G., & Interaction, H. T. (2009). *Attitude-behavior consistency: Campbell's paradigm in environmental and health domains* [Doctoral thesis]. Technische Universiteit Eindhoven. <https://research.tue.nl/publications/754794e7-875e-41bc-af7f-cfdde1ced554>
- Campbell, D. T. (1963). Social Attitudes and Other Acquired Behavioral Dispositions. In S. Koch (Ed.), *Psychology: A study of a science. Study II. Empirical substructure and relations with other sciences. Volume 6. Investigations of man as socius: Their place in psychology and the social sciences* (pp. 94–172). McGraw-Hill. <https://doi.org/10.1037/10590-003>

- Carver, C. S. (2018). Control theory, goal attainment, and psychopathology. *Psychological Inquiry*, 29(3), 139–144. <https://doi.org/10.1080/1047840X.2018.1513681>
- Carver, C. S., & Scheier, M. F. (1981). *Attention and self-regulation*. Springer. <https://doi.org/10.1007/978-1-4612-5887-2>
- Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control-process view. *Psychological Review*, 97(1), 19–35. <https://doi.org/10.1037/0033-295X.97.1.19>
- Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*. Cambridge University Press.
- Carver, C. S., & Scheier, M. F. (2002). Control processes and self-organization as complementary principles underlying behavior. *Personality and Social Psychology Review*, 6(4), 304–315. https://doi.org/10.1207/S15327957PSPR0604_05
- Carver, C. S., & Scheier, M. F. (2012). Cybernetic control processes and the self-regulation of behavior. In R. M. Ryan (Ed.), *The Oxford handbook of human motivation* (pp. 28–42). Oxford University Press.
- Chater, N., & Loewenstein, G. (2023). The i-frame and the s-frame: How focusing on individual-level solutions has led behavioral public policy astray. *The Behavioral and Brain Sciences*, 46, Article e147. <https://doi.org/10.1017/S0140525X22002023>
- Ciziceno, M., & Pizzuto, P. (2022). Life satisfaction and tax morale: The role of trust in government and cultural orientation. *Journal of Behavioral and Experimental Economics*, 97, Article 101824. <https://doi.org/10.1016/j.socec.2021.101824>
- Corral-Verdugo, V., & Pinheiro, J. Q. (2006). Sustainability, future orientation and water conservation. *European Review of Applied Psychology*, 56(3), 191–198. <https://doi.org/10.1016/j.erap.2005.09.002>
- De Groot, J. I. M., Bondy, K., & Schuitema, G. (2021). Listen to others or yourself? The role of personal norms on the effectiveness of social norm interventions to change pro-environmental behavior. *Journal of Environmental Psychology*, 78, Article 101688. <https://doi.org/10.1016/j.jenvp.2021.101688>
- Delavande, A., & Manski, C. F. (2015). Using elicited choice probabilities in hypothetical elections to study decisions to vote. *Electoral Studies*, 38, 28–37. <https://doi.org/10.1016/j.electstud.2015.01.006>
- Dubois, G., Sovacool, B., Aall, C., Nilsson, M., Barbier, C., Herrmann, A., Bruyère, S., Andersson, C., Skold, B., Nadaud, F., Dorner, F., Moberg, K. R., Ceron, J. P., Fischer, H., Amelung, D., Baltruszewicz, M., Fischer, J., Benevise, F., Louis, V. R., & Sauerborn, R. (2019). It starts at home? Climate policies targeting household consumption and behavioral decisions are key to low-carbon futures. *Energy Research & Social Science*, 52, 144–158. <https://doi.org/10.1016/j.erss.2019.02.001>
- Dymnicka, M., Starosta, P., & Załęcki, J. (2023). Społeczny wymiar adaptacji do zmian klimatu w środowisku miejskim na przykładzie Gdańska. *Przegląd Socjologiczny*, 72(3), 197–216. <https://doi.org/10.26485/PS/2023/72.3/8>

- Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology*, 53(1), 109–132. <https://doi.org/10.1146/annurev.psych.53.100901.135153>
- Echterhoff, G., Higgins, E. T., & Levine, J. M. (2009). Shared reality: Experiencing commonality with others' inner states about the world. *Perspectives on Psychological Science*, 4(5), 496–521. <https://doi.org/10.1111/j.1745-6924.2009.01161.x>
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175–191. <https://doi.org/10.3758/BF03193146>
- Feather, N. T., & Newton, J. W. (1982). Values, expectations, and the prediction of social action: An expectancy-valence analysis. *Motivation and Emotion*, 6(3), 217–244. <https://doi.org/10.1007/BF00992246>
- Feinberg, M., & Willer, R. (2013). The moral roots of environmental attitudes. *Psychological Science*, 24(1), 56–62. <https://doi.org/10.1177/0956797612449177>
- Hernández-Morales, I. (2023, March 1). *Don't lock me in my neighborhood! 15-minute city hysteria sweeps the UK*. POLITICO. <https://www.politico.eu/article/dont-lock-me-neighborhood-15-minute-city-hysteria-uk-oxford/>
- Higgins, E. T. (2018). What distinguishes promotion and prevention? Attaining “+ 1” from “0” as non-gain versus maintaining “0” as non-loss. *Polish Psychological Bulletin*, 49(1), 40–49. <https://doi.org/10.24425/119470>
- Higgins, E. T., Friedman, R. S., Harlow, R. E., Idson, L. C., Ayduk, O. N., & Taylor, A. (2001). Achievement orientations from subjective histories of success: Promotion pride versus prevention pride. *European Journal of Social Psychology*, 31(1), 3–23. <https://doi.org/10.1002/ejsp.27>
- Humberg, S., Nestler, S., & Back, M. D. (2019). Response surface analysis in Personality and Social Psychology: Checklist and clarifications for the case of congruence hypotheses. *Social Psychological & Personality Science*, 10(3), 409–419. <https://doi.org/10.1177/1948550618757600>
- IPSOS. (2021). *U.N. Sustainable Development Goals in 2021: Public Opinion on Priorities and Stakeholders' Commitment: 28-Country Ipsos survey for The World Economic Forum*, (pp. 1–7). https://www.ipsos.com/sites/default/files/ct/news/documents/2021-06/UN%20SDGs%20in%202021%20Ipsos%20Global%20Advisor%20-%20World%20Economic%20Forum%20Survey%20Report_1.pdf
- Joanes, T. (2019). Personal norms in a globalized world: Norm-activation processes and reduced clothing consumption. *Journal of Cleaner Production*, 212, 941–949. <https://doi.org/10.1016/j.jclepro.2018.11.191>
- Joireman, J. A., Van Lange, P. A. M., & Van Vugt, M. (2004). Who cares about the environmental impact of cars?: Those with an eye toward the future. *Environment and Behavior*, 36(2), 187–206. <https://doi.org/10.1177/0013916503251476>

- Kaiser, F. G. (2019). The Campbell paradigm as a behavior-predictive reinterpretation of the classical tripartite model of attitudes. *European Psychologist*, 24(4), 359–374. <https://doi.org/10.1027/1016-9040/a000364>
- Kaiser, F. G., & Byrka, K. (2011). Environmentalism as a trait: Gauging people's prosocial personality in terms of environmental engagement. *International Journal of Psychology*, 46(1), 71–79. <https://doi.org/10.1080/00207594.2010.516830>
- Kaiser, F. G., Byrka, K., & Hartig, T. (2010). Reviving Campbell's paradigm for attitude research. *Personality and Social Psychology Review*, 14(4), 351–367. <https://doi.org/10.1177/1088868310366452>
- Kaiser, F. G., Merten, M., & Wetzel, E. (2018). How do we know we are measuring environmental attitude? Specific objectivity as the formal validation criterion for measures of latent attributes. *Journal of Environmental Psychology*, 55, 139–146. <https://doi.org/10.1016/j.jenvp.2018.01.003>
- Kaiser, F. G., & Wilson, M. (2004). Goal-directed conservation behavior: The specific composition of a general performance. *Personality and Individual Differences*, 36(7), 1531–1544. <https://doi.org/10.1016/j.paid.2003.06.003>
- Kruglanski, A. W., Thompson, E. P., Higgins, E. T., Atash, M. N., Pierro, A., Shah, J. Y., & Spiegel, S. (2000). To "do the right thing" or to "just do it": Locomotion and assessment as distinct self-regulatory imperatives. *Journal of Personality and Social Psychology*, 79(5), 793–815. <https://doi.org/10.1037/0022-3514.79.5.793>
- Krys, K., Capaldi, C. A., Uchida, Y., Cantarero, K., Torres, C., Işık, İ., Yeung, V. W. L., Haas, B. W., Teyssier, J., Andrade, L., Denoux, P., Igbokwe, D. O., Kocimska-Zych, A., Villeneuve, L., & Zelenski, J. M. (2022). Preference for modernization is universal, but expected modernization trajectories are culturally diversified: A nine-country study of folk theories of societal development. *Asian Journal of Social Psychology*, 25(4), 731–746. <https://doi.org/10.1111/ajsp.12533>
- Lafortune, G., Fuller, L., Klocke-Lesch, A., Koundouri, P., & Riccaboni, A. (2024). European Elections, Europe's Future and the Sustainable Development Goals. Europe Sustainable Development Report 2023/24. <https://doi.org/10.25546/104407>
- Lange, F., & Dewitte, S. (2021). The work for environmental protection task: A consequential web-based procedure for studying pro-environmental behavior. *Behavior Research Methods*, 54(1), 133–145. <https://doi.org/10.3758/s13428-021-01617-2>
- Ledgerwood, A., & Wang, Y. A. (2018). Achieving local and global shared realities: Distance guides alignment to specific or general social influences. *Current Opinion in Psychology*, 23, 62–65. <https://doi.org/10.1016/j.copsyc.2017.12.008>
- Liobikiénė, G., & Minelgaitė, A. (2021). Energy and resource-saving behaviours in European Union countries: The Campbell paradigm and goal framing theory approaches. *The Science of the Total Environment*, 750, Article 141745. <https://doi.org/10.1016/j.scitotenv.2020.141745>
- Mandel, N., Rucker, D. D., Levav, J., & Galinsky, A. D. (2017). The Compensatory Consumer Behavior Model: How self-discrepancies drive consumer behavior. *Journal of Consumer Psychology*, 27(1), 133–146. <https://doi.org/10.1016/j.jcps.2016.05.003>

- Onwezen, M. C., Antonides, G., & Bartels, J. (2013). The Norm Activation Model: An exploration of the functions of anticipated pride and guilt in pro-environmental behaviour. *Journal of Economic Psychology*, 39, 141–153. <https://doi.org/10.1016/j.joep.2013.07.005>
- Rabbitt, M. P. (2018). Causal inference with latent variables from the Rasch model as outcomes. *Measurement*, 120, 193–205. <https://doi.org/10.1016/j.measurement.2018.01.044>
- Shanock, L. R., Baran, B. E., Gentry, W. A., Pattison, S. C., & Heggstad, E. D. (2010). Polynomial regression with response surface analysis: A powerful approach for examining moderation and overcoming limitations of difference scores. *Journal of Business and Psychology*, 25(4), 543–554. <https://doi.org/10.1007/s10869-010-9183-4>
- Sparkman, G., Geiger, N., & Weber, E. U. (2022). Americans experience a false social reality by underestimating popular climate policy support by nearly half. *Nature Communications*, 13, Article 4779. <https://doi.org/10.1038/s41467-022-32412-y>
- 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>
- Tanno, S., & Liakos, C. (2024, February 3). *Farmers' protests have erupted across Europe. Here's why.* CNN. <https://www.cnn.com/2024/02/03/europe/europe-farmers-protests-explainer-intl/index.html>
- Tykocinski, O., Higgins, E. T., & Chaiken, S. (1994). Message framing, self-discrepancies, and yielding to persuasive messages: The motivational significance of psychological situations. *Personality & Social Psychology Bulletin*, 20(1), 107–115. <https://doi.org/10.1177/0146167294201011>
- Urien, B., & Kilbourne, W. (2011). Generativity and self-enhancement values in eco-friendly behavioral intentions and environmentally responsible consumption behavior. *Psychology and Marketing*, 28(1), 69–90. <https://doi.org/10.1002/mar.20381>
- van der Werff, E., Steg, L., & Keizer, K. (2013). The value of environmental self-identity: The relationship between biospheric values, environmental self-identity and environmental preferences, intentions and behaviour. *Journal of Environmental Psychology*, 34, 55–63. <https://doi.org/10.1016/j.jenvp.2012.12.006>
- Verplanken, B., & Holland, R. W. (2002). Motivated decision making: Effects of activation and self-centrality of values on choices and behavior. *Journal of Personality and Social Psychology*, 82(3), 434–447. <https://doi.org/10.1037/0022-3514.82.3.434>

