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Don't Look Up, Look Within: Investigating the Influences of Perceived Urgency and Collective Efficacy on Climate Anxiety

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Master Thesis - Environmental Psychology

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Abstract

The increasing severity of climate change has heightened attention to its psychological impacts, particularly climate anxiety. This study aimed to explore the roles of perceived urgency and collective efficacy in shaping climate anxiety, using appraisal theory as a framework. Participants (N=151) were exposed to fabricated news articles varying in urgency and collective efficacy levels. Due to ineffective manipulations, a multiple linear regression analysis was performed. Results showed a strong positive relationship between perceived urgency and climate anxiety, supporting the hypothesis that the immediacy and severity of climate threats intensify emotional responses. Contrary to expectations, no relationship was found between collective efficacy and climate anxiety, either alone or in interaction with urgency. Additionally, perceived threat was independently associated with higher climate anxiety. Gender differences were observed, with women reporting higher levels of climate anxiety than men. The study's methodological limitations include ineffective manipulations and potential pre-existing high urgency and low collective efficacy levels among participants. Conceptual limitations were also noted, such as the absence of measures for self-efficacy and resilience. Future research should refine experimental designs to include these variables and utilize more robust manipulations to better understand the dynamics of urgency and collective efficacy in climate anxiety. These findings are crucial for developing effective strategies to manage climate anxiety and promote psychological well-being amidst growing climate challenges.

Keywords: climate change, climate anxiety, appraisal theory, urgency, collective efficacy, media exposure

Don't Look Up, Look Within: Investigating the Influences of Perceived Urgency and Collective Efficacy on Climate Anxiety

The escalating severity of climate change, exemplified by the warmest year on record globally in 2023, has heightened attention to its psychological impacts (IPCC, 2023; Moustafa et al., 2023). Surveys show widespread concern about climate change. In 19 countries across North America, Europe, and the Asia-Pacific, 75% of respondents view global climate change as a major threat (Poushter et al., 2022). Additionally, a study of 10,000 children in 10 countries found 59% expressed very high levels of concern, and 84% reported at least moderate worry (Hickman et al., 2021).

Widespread concern about climate change underscores the need to investigate its impact on mental well-being. Negative emotional responses to climate change, such as eco-anxiety, climate anxiety, eco-fear, and environmental distress, are widely discussed in the literature (Clayton, 2020; Coffey et al., 2021; Pihkala, 2020; van Valkengoed et al., 2023). Terms like ecological grief and eco-paralysis also describe this phenomenon (Albrecht, 2011a; Cunsolo & Ellis, 2018). Eco-anxiety generally describes anxiety related to ecological crises, while climate anxiety specifically refers to anxiety about anthropogenic climate change (Clayton, 2020; Manning & Clayton, 2018). This study focuses on climate anxiety, which includes persistent worry and apprehension about climate change affecting individuals emotionally, cognitively, behaviorally, and physiologically (van Valkengoed et al., 2023).

Despite extensive research on climate anxiety, there is still a gap in understanding the specific mechanisms that trigger it. Studies have linked climate anxiety to factors such as mental well-being (Ogunbode et al., 2022), media exposure (Clayton, 2020; Cosentino et al., 2024; Shao & Yu, 2023), personal experiences with climate disasters (Manning & Clayton, 2018; Pihkala, 2020), and demographic variables like age and gender (Hickman et al., 2021; Triodos Bank, 2019). However, the precise triggers remain unclear. While alarming media coverage about climate change heightens anxiety, the specific elements—frequency, tone, urgency, or future uncertainties—most responsible for this effect are unknown. Additionally, since climate change is collectively caused—resulting from the behavior of the population worldwide—addressing it requires widespread behavioral changes across society (Williamson

et al., 2018). It is important to understand how individuals, each contributing to collective behaviors, perceive their collective capability to tackle climate issues, and how this perception impacts their climate anxiety. This study aims to uncover the specific mechanisms behind climate anxiety, a crucial step in helping individuals manage their anxiety and build resilience against environmental challenges.

Appraisal Theory of Emotion

We suggest that appraisal theory of emotions explains why people experience climate anxiety. According to this theory, emotions arise when a person evaluates an event as significant to their well-being and central concerns (Moors, 2017; Scherer & Moors, 2019). The quality and intensity of the emotion depend on the person's subjective evaluation of the situation, not the situation itself (Schmidt et al., 2010). Essentially, emotions are shaped by how individuals appraise events rather than by the events themselves (Lazarus, 1991). In line with appraisal theory, van Valkengoed et al. (2023) argue that how people appraise environmental problems can explain their climate anxiety. Climate change is a universal threat impacting everyone, yet individual responses vary greatly. Some people deny or minimize the crisis, while others experience high concern or climate anxiety. These varied reactions are understood through appraisal theory, which emphasizes that personal evaluations and perceptions shape emotional responses to environmental threats like climate change.

To illustrate this concept in a different context, the film "Don't Look Up" (McKay, 2021), released in December 2021, illustrates how the urgent threat of an impending comet is met with public indifference and a lack of collective action. This satirical movie mirrors real-world reactions to climate change (Little, 2022), where many people worry about climate change and feel that insufficient action is being taken. This scenario suggests that the urgency of the threat and collective efficacy in effectively solving it, are key factors influencing the emotional response. Perceiving climate change as an urgent crisis while feeling that no one is taking action—similar as in the movie "Don't Look Up"—can be particularly climate anxiety-inducing. Therefore, understanding these appraisal dimensions—urgency and collective efficacy—may provide insights into the mechanism behind climate anxiety.

The Appraisal Dimension: Urgency

Urgency, in the context of climate change, refers to the perceived immediacy and severity of environmental threats (Wilson & Orlove, 2021), which plays a crucial role in shaping emotional responses (Frijda, 1986). Urgency arises from the proximity of event effects in space or time and the perceived inability to manage them effectively (Frijda, 1986). Thus, climate change effects feel more urgent when they occur nearby or soon. For instance, witnessing extreme weather locally can heighten perceptions of urgency, and if individuals feel unable to cope, this sense of urgency increases. This heightened urgency might contribute to increased anxiety. Also, more recent literature increasingly focuses on the urgency of climate change and its consequences. Research has shown that communities where the public perceives greater urgency about climate change are more engaged in climate change adaptation activities (Archie et al., 2018). This heightened adaptation effort is likely due to individuals experiencing increased anxiety about climate change when they see it as urgent, motivating them to take action. This concept aligns with 'practical' anxiety, where moderate anxiety levels encourage proactive behavior (Kurth & Pihkala, 2022; Pihkala, 2020) by fostering a sense of moral responsibility, prompting people to reconsider actions with negative ecological impacts (Maran & Begotti, 2021). Furthermore, high time pressure generally leads to negative emotions and lower well-being (Wilson & Orlove, 2021). Therefore, we expect a direct relationship between perceived urgency and higher anxiety levels. Additionally, studies have shown that the heightened urgency of threats like climate change correlates with increased perceived risk (Ferrer & Klein, 2015) and subsequent maladaptive behaviors (Anestis et al., 2007). These heightened risk perceptions have been directly linked to climate anxiety (Reese et al., 2022). Moreover, there is a growing consensus in the academic community and society that climate change is an urgent concern, reflected in terms like climate emergency and climate crisis (Orlove et al., 2020; Paglia, 2018). Media coverage increasingly emphasizes the urgency of climate change. Newspapers, over time, have been using more urgent language when discussing climate-related issues (Eikelboom et al., 2024). This rising sense of urgency in the media likely amplifies the anxiety individuals feel about the future of our planet.

To illustrate how the appraisal dimension urgency might influence climate anxiety, consider the extreme weather events in Europe during the summer of 2023—floods in Slovenia, wildfires in Portugal, a heatwave in Spain, and landslides in Norway (Welle, 2023). These events made headlines and sparked concern. Some readers might perceive them as highly urgent, demanding immediate action and causing anxiety. Others might perceive them as less urgent, natural variations, believing that gradual solutions are sufficient, and therefore feel less anxious. This example shows how different urgency appraisals could lead to different emotional responses to the same news. Thus, the current study proposes that the level of urgency individuals feel about climate change is linked to their experience of climate anxiety. In other words, the more urgently individuals perceive the need to address climate change, the more likely they are to experience heightened levels of climate anxiety. This study aims to test the following hypothesis (H1): Higher perceived urgency will lead to increased levels of climate anxiety.

The Appraisal Dimension: Collective Efficacy

Another factor potentially impacting climate anxiety is collective efficacy—the shared belief in a group's ability to achieve goals and tackle challenges (Bandura, 1982). This concept is particularly relevant to climate change, since climate change is a problem caused by collective behavior, requiring collaborative efforts for effective adaptation and mitigation. Thus, pro-environmental action is needed not just from individuals but from everyone, including citizens, companies, and governments (Petzold et al., 2023). When applied to climate change, the theory of collective efficacy suggests that believing in our collective power to address climate issues can boost public engagement and lead to effective climate action. This shared belief in our collective efforts is crucial for tackling the global climate crisis. Collective efficacy can also shape our emotional responses (Bandura, 2000). This highlights the importance of fostering collective efficacy not only to drive collective action but also to support individuals' emotional well-being in the face of climate challenges. Empirical evidence supports the link between collective efficacy and climate anxiety. Maran & Begotti (2021) found that collective efficacy is closely linked to climate anxiety, suggesting that collective efficacy reduces anxiety by reinforcing individuals' confidence in the collective capacity to address the climate crisis. Innocenti et al. (2023) also

support this view, indicating that individuals who report higher levels of climate anxiety often feel powerless to effect collective changes and exhibit lower levels of collective efficacy. Building on these findings, the current study aims to further explore the relationship between collective efficacy and climate anxiety. We hypothesize that greater perceived collective efficacy in addressing climate change will lead to lower levels of climate anxiety (H2).

An Interaction Effect

Reflecting on the narrative depicted in the movie example and insights from the literature reveals that urgency and collective efficacy are crucial in shaping climate anxiety. In the movie, the urgent threat of an impending comet, which parallels the urgency of the climate crisis, is met with public indifference and a lack of collective action, amplifying the anxiety of those aware of the threat. This observation suggests that urgency and collective efficacy are not just important individually but are deeply interconnected. For example, individuals who perceive climate change as extremely urgent may feel heightened anxiety if they also believe that others are not taking sufficient action. In such cases, low collective efficacy could amplify the anxiety caused by the urgency of the situation. Conversely, those who have high collective efficacy, might not experience the same level of anxiety, even if they perceive climate change as urgent. Their confidence in their community's ability to effectively tackle climate issues can act as a buffer against intense climate anxiety. This study aims explore this suspected interplay between urgency and collective efficacy, proposing that their influence on climate anxiety is interdependent. Specifically, we hypothesize (H3) that the effect of perceived urgency on climate anxiety is moderated by collective efficacy, meaning that the anxiety-inducing impact of urgency is more pronounced at lower levels of collective efficacy.

The Current Study

The research model of the current study is illustrated in Figure 1. To test our hypotheses, we will employ a 2x2 experimental design, manipulating urgency and collective efficacy levels. Participants will be randomly assigned to one of four experimental conditions. Each participant will read a fabricated news article on climate change, varying in urgency and collective action portrayal, reflecting collective efficacy

levels. Subsequently, we will measure their climate anxiety levels to examine potential differences across conditions. These differences will be analyzed using a 2-way ANOVA to determine if the experimental manipulations significantly influenced climate anxiety levels.

Method

Participants

This study included Groningen bachelor psychology students recruited via SONA (n = 57) and participants gathered through convenience sampling in the researchers' social media network (n = 163). We excluded 67 participants from the analysis because they did not complete the questionnaire and, therefore, could not provide their second consent after the debriefing (as explained in the procedure

Figure 1

Visual Representation of the Research Model
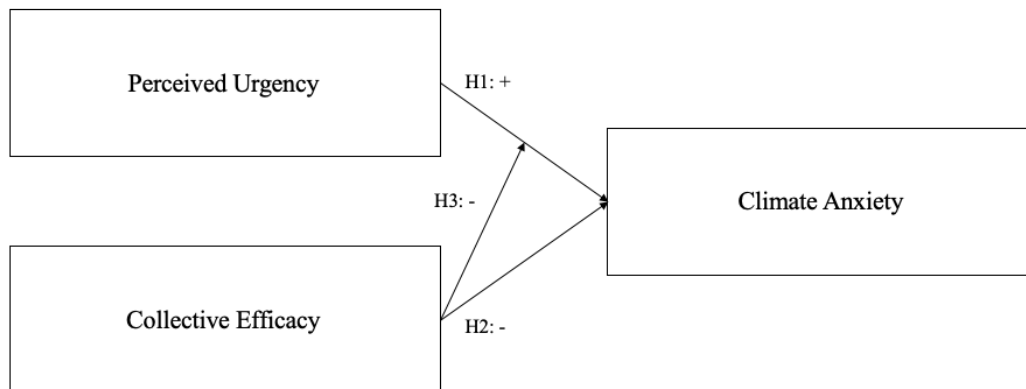
Note. + indicates a positive relationship; - indicates a negative relationship; H1: Higher perceived urgency will lead to increased levels of climate anxiety; H2: greater perceived collective efficacy in addressing climate change will lead to lower levels of climate anxiety; H3: there is an interaction effect between collective efficacy and urgency.

section). Additionally, two participants who reported not believing in human-induced climate change were excluded from the analysis, as belief in human-induced climate change is a prerequisite for experiencing climate anxiety according to our understanding of the concept. A priori power analysis using G*Power (Faul et al., 2007) indicated a target sample size of 256 participants across 4 conditions (ANOVA: fixed effects, special, main effects, and interactions; power = 0.80, partial η^2 = 0.03, α = .05). This small effect size is considered sufficient in this field of research due to the subtle nature of the psychological effects being studied (Funder & Ozer, 2019). While we initially aimed to sample 256 participants, our final sample size was 151 participants.

The sample consisted of 62.9% females (n = 95), 34.4% males (n = 52), 1.3% non-binary/third gender individuals (n = 2), and 1.3% who preferred not to disclose their gender (n = 2). The participants (n=151) were between 18 and 79 years old, with an average of 28.3 years old (SD = 13.59). Within the study, 29.8% of the participants reported experiencing a climate disaster (n = 45), while 68.9% did not (n = 104), and 1.3% chose not to disclose (n = 2).

Measures

Climate Anxiety

Climate anxiety was measured using a 7-item scale adapted from the State-Trait Anxiety Inventory (Maran & Begotti, 2021) on a 5-point Likert scale (*not at all*, *slightly*, *moderately*, *very*, *extremely*). It measured participants' feelings regarding climate change, including calm (reverse-coded), tense, relaxed (reverse-coded), anxious, peaceful (reverse-coded), worried, and terrified. The climate anxiety scale was found to be highly reliable (α = .91).

Perceived Urgency

Perceived urgency was measured using an item developed specifically for this study. The item assessed participants' perceived urgency of climate change on a 7-point Likert scale (*completely disagree*, *disagree*, *slightly disagree*, *neither agree nor disagree*, *slightly agree*, *agree*, *completely agree*).

Collective Efficacy

Collective efficacy was measured using a scale, also developed specifically for this study. Three items assessed participants' trust that other citizens, companies, and governments, respectively, will take effective actions to mitigate climate change, on a 7-point Likert scale (*completely disagree*, *disagree*, *slightly disagree*, *neither agree nor disagree*, *slightly agree*, *agree*, *completely agree*). Collective efficacy was computed using the mean of these three trust items combined. We found the scale to be reliable ($\alpha =$ .79).

Threat Perception

Since urgency in the context of climate change refers to the perceived immediacy and severity of environmental threats, it is inherently tied to how intense those threats are perceived to be. To ensure we specifically manipulated the sense of urgency and not just the general perception of threat, we included a measure of threat in our study. This allowed us to distinguish between participants' sense of urgency (how immediate the action needs to be) and their overall threat perception. Urgency and threat are related dimensions: perceiving the climate crisis as urgent requires recognizing it as a threat. By measuring threat as well, we aim to ensure that any effect on climate anxiety is indeed due to urgency perceptions. Overall, urgency involves the need for immediate action, while threat pertains to the seriousness and potential consequences of climate-related issues, and these constructs together potentially shape individuals' perceptions and reactions. Threat perception was measured with a 2-item scale adapted from van Valkengoed et al. (2024) on a 7-point Likert scale (*very unlikely*, *unlikely*, *somewhat unlikely*, *neither likely nor unlikely*, *somewhat likely*, *likely*, *very likely*), capturing participants' perceptions of the severity and likelihood of negative consequences of climate change. We found that the scale demonstrated high reliability ($\alpha = .87$).

Procedure

Ethical approval was obtained from the University of Groningen's ethical review board (PSY-2324-S-0197). The study employed a 2 (urgency: high vs. low) x 2 (collective efficacy: high vs. low) between-subjects experiment. Participants in this study completed an online questionnaire hosted on the Qualtrics platform. The study was framed as a study on reactions towards news articles without explicitly

mentioning climate anxiety, to avoid interference with the manipulations. After providing informed consent, participants were randomly assigned in one of four manipulation conditions and instructed to read a fabricated news article. These articles varied in content, presenting either a high or low urgency of climate change and depicting either a lack of collective action or a substantial amount of action to address climate change issues, to manipulate low and high urgency and collective efficacy, respectively (Appendix). The participants were evenly divided over the four conditions: high urgency and high collective efficacy (HH, n = 34, 22.5%), high urgency and low collective efficacy (HL, n = 40, 26.5%), low urgency and high collective efficacy (LH, n = 36, 23.8%), and low urgency and low collective efficacy (LL, n = 41, 27.2%).

After reading the article, participants completed the questionnaire. First, their state-climate anxiety was assessed. Next, we measured their perceived threat of climate change. Following this, we asked participants if they believed in human-induced climate change. We then measured the perceived urgency of the climate change problem and the participants' perceived collective efficacy. Following, two attention-check items were included: the first asked participants to recall whether the text emphasized urgent action on climate change or action needed in the coming decades; the second asked if the text mentioned a surprising amount of action toward solutions or a notable lack of action. Finally, demographic information was collected, including gender, age, and whether participants had ever experienced a climate disaster.

Lastly, participants were thanked for their participation and debriefed. In the debriefing, we informed them about the true nature of the study, namely that we aimed to elicit climate anxiety through manipulation texts and offered resources for accessing more information about climate change and managing climate anxiety, as well as support services for participants experiencing distress. Following completion of the study, participants were asked to provide their consent for the continued use of their data, having been fully informed about the study's objectives. Participants were initially informed that discontinuing participation during the study would result in not receiving the debriefing at its conclusion; however, they could still request the debriefing document by emailing the researcher. Those participants

who did not complete the questionnaire were consequently unable to provide this secondary consent and were therefore excluded entirely from the analysis.

Results

Preliminary Analysis

The data was analyzed in SPSS-version 28. Outliers were defined as ±3 standard deviations from the mean. Five participants were identified as outliers on the urgency and threat scales but were retained due to the absence of systematic errors or pattern deviations. No outliers were found on the climate anxiety and collective efficacy scales. Independent sample t-tests were conducted to assess the manipulations of collective efficacy and urgency. All assumptions for the independent samples t-test were met. Results indicated no significant differences in reported urgency and collective efficacy between conditions, indicating a failed manipulation (Table 1). Specifically, people in the high urgency condition did not report higher levels of urgency than those in the low urgency condition. Similarly, participants in the high collective efficacy condition did not report higher levels of collective efficacy compared to those in the low collective efficacy condition.

Table 1

Results of the Independent Samples T-Test Checking Effects of the Manipulations

	Low			High			$t(149)$	p	Cohen's d
	n	M	SD	n	M	SD			
Urgency	77	6.1	1.16	74	6.3	0.91	-.98	.33	1.05
Collective efficacy	81	3.2	1.36	70	3.8	1.33	-.65	.52	1.34

Note. The table presents means (M) and standard deviations (SD) for reported urgency and collective efficacy in the low and high manipulation conditions. The t-values and p-values indicate no significant differences between the conditions, suggesting the manipulations were ineffective.

To rule out that failed manipulations were due to inattentive respondents, we checked the attention check items. We found that 39 out of 77 participants (50.6%) in the low urgency condition indicated that they had read a text emphasizing that climate change was a highly urgent problem, even though they were in the low urgency condition. Similarly, 21 out of 70 participants (30.0%) in the high collective efficacy reported having read a text indicating that little action is being taken to address climate change, despite the intended high collective efficacy message. Conversely, 12 out of 74 participants (16.2%) in the high urgency condition and 5 out of 81 participants (6.2%) in the low collective efficacy condition incorrectly indicated the content of the text regarding urgency and collective efficacy, respectively. The uneven distribution of participants failing attention checks indicated that many in the low urgency condition perceived the text as emphasizing high urgency, while those in the high collective efficacy condition often misunderstood the intended message, suggesting clarity issues with the manipulations rather than participant attention. Participants seemed to systematically perceive climate change as more urgent and perceive others as less active in addressing it, which may indicate that the manipulations were not strong enough to override strong pre-existing beliefs or perceptions in that direction.

Regression Analysis

Given the unsuccessful manipulation of urgency and collective efficacy, a two-way ANOVA using experimental conditions as factors could not be conducted. Therefore, we pursued a regression analysis to examine the relationships among urgency, collective efficacy, and climate anxiety, based on individual differences rather than experimental conditions. This approach allowed us to investigate whether reported levels of urgency and collective efficacy were associated with variations in climate anxiety levels. Participants generally perceived high climate change urgency ($M = 6.20$, $SD = 1.05$) and low collective efficacy ($M = 3.30$, $SD = 1.34$). The perceived threat, included in the analysis due to its potential linkage with urgency, was also notably high ($M = 6.02$, $SD = 0.96$). Overall climate anxiety was high ($M = 3.44$, $SD = 0.82$).

First, bivariate correlations among climate anxiety, urgency, threat, and collective efficacy were examined (Table 2). Urgency and threat showed significant positive correlations with climate anxiety, whereas collective efficacy did not, suggesting it may not directly relate to climate anxiety in this sample. After identifying a correlation between urgency and threat in our correlation matrix, we conducted a stepwise regression analysis to explore whether adding urgency to the model with threat would enhance the explanation of variance in climate anxiety. The rationale behind this approach is grounded in theoretical understanding that when individuals perceive something as urgent, it often implies that they also perceive it as a significant threat to themselves or others. Urgency typically arises when the perceived threat requires immediate attention or action to mitigate potential harm or negative consequences. This relationship suggests that the perception of threat is a precondition for the perception of urgency; perceiving something as a threat, is needed to perceive its urgency. However, the reverse does not necessarily hold true: perceiving something as a threat does not automatically imply a sense of urgency: threat perception may involve recognizing potential harm or risks without necessarily feeling an immediate need for action or intervention. Therefore, in studying the impact of urgency and threat on climate anxiety, it is crucial to explore whether urgency contributes additional explanatory power beyond threat perception alone.

Table 2

Bivariate Correlations Between the Variables of Interest.

| | Pearson Correlation | | | |
Variable	1	2	3	4
1. Climate anxiety	–			
2. Urgency	.63**	–		
3. Collective efficacy	-.10	.05	–	
4. Threat	.62**	.77**	-.05	–

Note. ** p < .01

A stepwise regression analysis was performed to identify if urgency added explained variance on top of threat. All assumptions for the stepwise regression analysis were met. In the first step, urgency was entered into the model, resulting in a significant improvement, $F(1, 149) = 14.27$, $p < .001$. In the second step, urgency was added, leading to another significant enhancement, $F(1, 148) = 57.59$, $p < .001$. The final model, including both threat and urgency, demonstrated a strong fit, accounting for a substantial proportion of the variance in climate anxiety ($R^2 = 0.438$, adjusted $R^2 = 0.430$). The R^2 change indicated a significant increase when urgency was added to the model, $\Delta R^2 = 0.054$, suggesting urgency plays a distinct role in influencing climate anxiety in addition to perceived threat. In the first step, the regression equation was Climate Anxiety $= 3.44 + 0.53$(threat), highlighting the significant positive relationship between threat and climate anxiety. In the second step, with the addition of urgency, the equation became Climate Anxiety $= 3.44 + 0.29$(threat) $+ 0.29$(urgency). Both threat ($t = 3.49$, $p < .001$, $B = 0.29$) and urgency ($t = 3.78$, $p < .001$, $B = 0.29$) showed positive standardized coefficients, suggesting their individual contribution to the prediction of climate anxiety.

The analysis revealed that threat perception alone accounted for a substantial portion of the variance in climate anxiety. Adding urgency to the model significantly increased the explained variance, indicating that urgency contributes uniquely to climate anxiety beyond the impact of threat perception alone. This suggests that while threat perception is critical, urgency perception adds additional explanatory power in understanding variations in climate anxiety levels among individuals. Further, the discovery that urgency perception enhances our understanding of climate anxiety levels, as indicated by ΔR^2, alongside the strong correlation between threat and urgency, reinforces our theory that perceiving something as a threat is a prerequisite for perceiving it as urgent. However, urgency independently contributes to explaining climate anxiety beyond what threat accounts for alone. Therefore, incorporating both as distinct predictors in the comprehensive model, alongside collective efficacy and the urgency-collective efficacy interaction, is justified.

We performed a multiple linear regression analysis to examine these relationships. Assumptions for regression analysis were met, including normal distribution of residuals, linear relationship between

variables, homoscedasticity, and absence of multicollinearity (VIF < 10; tolerance > 0.2, Pearson

correlation r < 0.8). Predictor variables were centered to reduce multicollinearity and enhance the

interpretability of how urgency and collective efficacy jointly influence climate anxiety (interaction).

The multiple linear regression model assessed whether urgency, collective efficacy, and threat were

associated with climate anxiety (Table 3). The model was significant (F = 30.47, p < .001) and explained

44.0% of the variance in climate anxiety (n = 151). Urgency and threat were significant predictors of

climate anxiety. Collective efficacy was not a significant predictor, nor was the interaction term between

urgency and collective efficacy.

We conducted a post hoc power analysis, using G*Power (Faul et al., 2007) to ensure sufficient

power. Because our a priori power analysis was based on the expectation that we would perform a 2-way

ANOVA. The post hoc analysis for a regression analysis of a model with four predictors (urgency,

collective efficacy, threat, and their interaction (Linear Multiple Regression: Fixed Model, power

Table 3

The Regression Model Predicting Climate Anxiety.

	Unstandardized Coefficients		Standardized Coefficients				
	B	*SE*	*b*	*t*	*p*	*F*	Adj. *R^2*
Constant	3.44	.05		69.01	<.001**	30.47	.440
Urgency	0.31	.08	.39	4.06	<.001**		
Collective efficacy	-0.06	.04	-.10	-1.54	.13		
Interaction	-0.05	.04	-.09	-1.37	.17		
Threat	0.25	.08	.30	2.96	.004**		

Note. All predictors are centered around the mean. Interaction represents the multiplication of the variables

Urgency and Collective efficacy. ** p < .01.

= .80, effect size of f² 0.786, at α = .05) showed an achieved power of 1.000, indicating an extremely high likelihood of detecting a significant effect if present. This high power, due to the large observed effect size, confirms that our sample size was sufficient for reliable estimates and strong statistical power in the multiple regression analysis.

Interpreting the results, while we cannot infer causality from the regression analyses alone, we can identify positive or negative relationships between our variables. Thus, we can partially explain the findings of the regression analysis as either supporting or contradicting our hypotheses, despite the absence of causal conclusions. In line with Hypothesis 1, we found that higher levels of urgency were associated with greater climate anxiety. This association suggests that individuals who perceive climate change as more urgent tend to report higher levels of climate anxiety. However, it is important to note that this relationship does not imply causation; rather, it indicates a meaningful association between urgency perception and climate anxiety. Contrary to Hypothesis 2, collective efficacy did not significantly predict climate anxiety. This finding suggests that individuals' beliefs about their community's ability to address climate issues may not be associated with their climate anxiety levels. Regarding Hypothesis 3, the interaction between urgency and collective efficacy was not a significant predictor of climate anxiety. This indicates that the combined influence of perceiving urgency and having high collective efficacy does not significantly correlate to individuals' levels of climate anxiety beyond their individual effects.

Exploratory Analysis

Gender

To examine gender differences in climate anxiety, an independent t-test compared mean scores between men (n = 52) and women (n = 95). Participants identifying as 'non-binary/third gender' (n = 2) were excluded due to low representation. Women reported significantly higher climate anxiety levels compared to men (Table 4).

Experience

To assess differences in climate anxiety based on experience with climate disasters, an independent samples t-test compared mean anxiety scores between participants who had (n = 45) and had

not (n = 104) experienced such disasters. Due to unequal variances (Levene's test: F(147) = 8.83, p = .003), a t-test assuming unequal variances was conducted for greater robustness. Results indicated no significant difference in climate anxiety scores between those who had experienced a climate disaster and those who had not (Table 5).

Table 4

Results of the independent samples t-test checking difference in climate anxiety between genders

	Men			Women			t(145)	p	Cohen's d
	n	M	SD	n	M	SD			
Gender	52	3.6	0.91	95	3.1	0.72	-3.55	<.001	.79

Table 5

Results of the independent samples t-test checking difference in climate anxiety between experience

	Yes			No			t(68.02)	p	Cohen's d
	n	M	SD	n	M	SD			
Experience with climate disaster	45	3.3	0.96	104	3.5	0.74	0.90	.37	.81

Note. Results are based on output assuming unequal variances.

Discussion

The current study aimed to explore the mechanisms underlying climate anxiety by examining perceived urgency and collective efficacy within the framework of appraisal theory. Despite encountering challenges with the manipulation of experimental conditions, necessitating a shift to multiple linear regression, we uncovered insightful correlations among climate anxiety, urgency, and threat. Initially, we hypothesized that higher perceived urgency would lead to increased climate anxiety (H1). Our regression analysis supported this hypothesis, revealing a positive relationship between urgency perception and climate anxiety. This association underscores that individuals who perceive climate change as more urgent tend to report heightened levels of climate anxiety. It is important to note that our study design precludes establishing causation; rather, it identifies a significant association between urgency perception and climate anxiety. Contrary to our second hypothesis (H2), which posited that greater perceived collective efficacy in addressing climate change would reduce climate anxiety, our findings did not reveal a significant relationship between collective efficacy and climate anxiety. This suggests that individuals' beliefs regarding their community's ability to tackle climate challenges may not directly influence their levels of climate anxiety. Importantly, also in the case of H2, our study design precludes establishing a causal relationship between collective efficacy and climate anxiety. Furthermore, our third hypothesis (H3), proposing an interaction effect where urgency's impact on climate anxiety would be moderated by collective efficacy, was not supported. The absence of a significant interaction indicates that the combined effect of urgency perception and collective efficacy does not uniquely contribute to individuals' climate anxiety levels beyond their individual effects. As with H1 and H2, we cannot establish causality between these variables based on our findings. Moreover, our study identified gender differences in climate anxiety levels but found no significant variation between participants who had experienced climate disasters and those who had not. These findings provide further insights into the complex interplay of psychological factors influencing climate anxiety. While our study contributes valuable insights into the factors influencing climate anxiety, particularly the roles of urgency, collective efficacy, and threat perception, it underscores the need for further research to establish causal relationships.

Our study contributes to understanding the relationship between urgency levels and climate anxiety. We found a positive relationship between urgency and climate anxiety, indicating that individuals who perceive climate change as highly urgent also experience elevated levels of climate anxiety. This supports our first hypothesis and aligns with (Frijda, 1986), who suggested that perceived urgency can heighten emotional responses such as anxiety. Moreover, our analysis revealed a correlation between perceived urgency and threat, suggesting that those who perceive a higher urgency in addressing climate change also tend to perceive greater threats associated with its consequences. Consistent with existing literature (Dodds, 2021; Hickman et al., 2021), perceived threat was independently associated with climate anxiety in our study. Including urgency in the model alongside threat increased the explained variance, indicating that urgency contributes uniquely to climate anxiety beyond the impact of threat perception alone. These independent associations of urgency and threat with climate anxiety suggest that while related, they remain distinct constructs within this study. This underscores that urgency depends on perceiving threat: recognizing the climate crisis as urgent hinges on acknowledging it as a threat, yet perceiving a threat does not necessarily imply urgency. Overall, urgency pertains to the perceived need for immediate action, while threat concerns the seriousness and potential consequences of climate-related issues. These interconnected constructs influence individuals' perceptions and reactions, with threat closely linked to climate anxiety. Moreover, individuals who feel urgency in addition to perceiving threat may experience heightened anxiety, as urgency explains some variance uniquely. These findings support our theory that threat serves as a precondition for urgency and underscore the role of urgency in understanding variations in climate anxiety among individuals.

Our findings underscore the impact of the increasing emphasis on urgency in newspaper reporting on climate change (Eikelboom et al., 2024), highlighting a link between heightened urgency perception and climate anxiety. This emphasizes the necessity of caution with the influence of urgency perception of climate change in public discourse. High levels of climate anxiety are concerning as they are associated with lower well-being (Pihkala, 2020), suggesting that heightened urgency in messaging could potentially lead to suffering. While climate anxiety can sometimes motivate pro-environmental behavior (Innocenti

et al., 2023), it may also overwhelm individuals (Albrecht, 2011), hindering action. Therefore, it is crucial to find a balance in climate communication, acknowledging urgency while mitigating overwhelming individuals. Future research should explore the causal relationship between urgency and climate anxiety and how anxiety levels influence behavioral responses. Recognizing the role of urgency in motivating action without overwhelming individuals is crucial for effective climate communication strategies.

Next, contrary to expectations, collective efficacy was not associated with climate anxiety in our study. Therefore, we cannot confirm our second hypothesis. This finding challenges prior research that suggests beliefs in collective action and efficacy to mitigate climate change may be associated with lower anxiety levels. Previous studies (Innocenti et al., 2023; Maran & Begotti, 2021) have highlighted the potential of collective efficacy in reducing climate anxiety, but our study did not find supporting evidence. However, if we compare our study to them, we find arguments why we did not find the same effect. For instance, Maran & Begotti (2021) suggested that efficacy beliefs are linked to lower anxiety, particularly when specific individual interventions and governmental practices are emphasized. Our study, however, did not highlight specific interventions or practices. Instead, our collective efficacy measures focused on general trust in other citizens, companies and governments to effectively implement climate change action. This lack of specificity might have influenced our results, leading to the absence of a detectable effect of collective efficacy. Furthermore, Innocenti et al. (2023) suggest that collective efficacy is associated with decreased climate anxiety, mediated by an individual's self-efficacy. Although our study did not uncover a direct link between collective efficacy and climate anxiety, it is plausible that this relationship is mediated by self-efficacy. This implies that perceptions of others' ineffectiveness in addressing climate issues could lead individuals to feel powerless, which then heightens climate anxiety. Since self-efficacy was not assessed in our study, we cannot assess the existence of this mediation.

Our findings underscore the importance of distinguishing between self-efficacy and collective efficacy. Future research should integrate measures of personal self-efficacy with collective efficacy to better understand their potential mediation effect on climate anxiety. Additionally, refining how collective efficacy is measured by focusing on specific climate actions could enhance sensitivity in detecting its

effects on anxiety. For instance, qualitative studies could investigate the mechanisms through which self-efficacy influences climate anxiety, providing a more nuanced understanding of this relationship. If this relationship is confirmed, future interventions and communication strategies should aim to enhance individuals' self-efficacy to address climate anxiety and promote proactive engagement in climate mitigation efforts.

Our study did not find support for our third hypothesis, which proposed that collective efficacy moderates the relationship between urgency and climate anxiety. Specifically, we hypothesized that the anxiety-inducing impact of urgency would be more pronounced at lower levels of collective efficacy. Contrary to our expectations, we did not observe a significant interaction effect between urgency and collective efficacy on climate anxiety. This implies urgency perception alone may independently contribute to heightened climate anxiety, irrespective of individuals' beliefs about others' capacity for effective action. These results may be influenced by the absence of a direct relationship between collective efficacy and climate anxiety in our study, as discussed earlier, which could potentially be mediated by self-efficacy. This absence of a collective efficacy-climate anxiety relationship might explain why collective efficacy did not moderate the urgency-climate anxiety relationship as hypothesized. By enhancing the manipulation and measurement of collective efficacy in the experimental design, future studies could better explore its potential moderating role in the relationship between urgency and climate anxiety.

Based on the findings of our exploratory analysis, this study identified that gender significantly affected climate anxiety, with women reporting higher levels compared to men, consistent with previous research (Clayton & Karazsia, 2020; Searle & Gow, 2010; Wullenkord et al., 2021). This gender difference in our sample's reported climate anxiety may stem from traditional gender socialization. According to Hunter et al. (2004), societal norms often lead women to adopt caregiving and nurturing roles, fostering greater empathy and concern for environmental impacts. This heightened sensitivity may make women more attentive to the potential threats of climate change and more anxious about its consequences for their families and communities. While the notion of traditional gender socialization may

seem outdated, recent studies suggest that gender-typical appearance norms and social pressures still significantly impact women more than men (Endendijk et al., 2024). This ongoing emphasis on gender-specific roles and appearances supports the idea that women might be more sensitive to environmental threats, including climate change, due to enduring social expectations and pressures. Additionally, women are generally found more affected by generalized anxiety disorder (Howell et al., 2001), which could further explain the observed gender difference in climate anxiety within our study.

Future research investigating the mechanism behind gender differences in climate anxiety could longitudinally examine how childhood experiences related to gender socialization influence individuals' perceptions of climate anxiety levels, following a methodology similar to Lawson et al. (2015). This approach would clarify how early socialization shapes climate change attitudes differently across genders, potentially uncovering the factors contributing to gender disparities in climate anxiety.

A key methodological limitation of this study was the ineffectiveness of the manipulation conditions for perceived urgency and collective efficacy. No differences in climate anxiety were observed between the manipulated conditions. This failure could be due to the manipulation texts being either too weak to alter perceptions or too general, leading to incorrect interpretations by participants.

The manipulation texts in our study may not have effectively altered participants' perceptions of urgency and collective efficacy. The urgency texts failed to create a difference in perceived urgency levels, likely because participants already had high initial levels. Similarly, the measured collective efficacy levels did not show variation, possibly due to participants' pre-existing low perceptions. This suggests that initial levels of urgency and collective efficacy could have influenced our results, underscoring the need for baseline assessments in future studies. Comparatively, studies like Shao & Yu (2023) have shown that texts focused on climate change can induce anxiety, though our more nuanced manipulations may not have had the same impact. Enhancing future studies with supplementary materials like images or videos could potentially improve manipulation effectiveness, as these mediums are known to better capture attention and convey messages (Salazar et al., 2022; van Beek et al., 2020).

Another consideration is that our manipulation conditions for urgency and collective efficacy may have been too general, potentially leading to participant misinterpretations. For instance, the text meant to convey low urgency still implied a need for significant change, potentially contributing to persistently high perceived urgency across conditions. Similarly, the lack of specificity in our collective efficacy manipulations, such as not detailing specific actions being taken, may have made the messages less believable and thus less effective in altering perceptions. These methodological insights highlight the importance of refining experimental protocols in future research, particularly in terms of ensuring clarity and credibility in manipulation texts to accurately assess their impact on climate anxiety and related perceptions.

Additionally, our sample exhibited a high representation of women and young people. This demographic skew could introduce bias, as previous research suggests that women and younger individuals are more likely to report higher levels of climate anxiety (Clayton & Karazsia, 2020; Hickman et al., 2021; Searle & Gow, 2010; Triodos Bank, 2019; Wullenkord et al., 2021). As a result, our findings may disproportionately reflect the experiences and perceptions of these groups, potentially overlooking important variations across different demographics. Moreover, the recruitment process primarily relied on our personal networks, leading to a sample predominantly composed of young, highly educated, nature-oriented individuals. The overrepresentation of individuals with specific backgrounds might influence the study's outcomes, as these factors can shape attitudes toward climate change and related anxiety (Pihkala, 2020). To address these limitations and enhance the generalizability and robustness of future research, it is crucial to include more diverse samples. This would ensure that the findings are more representative of the broader population, capturing a wider range of experiences and perspectives. By employing more rigorous recruitment strategies that reach beyond personal networks, a more balanced and inclusive sample could be achieved, ultimately leading to more reliable and comprehensive insights into the factors influencing climate anxiety.

We found no difference in climate anxiety between participants with and without experience with climate disasters, contradicting literature suggesting that exposure to traumatic events heightens concerns

about climate change (Manning & Clayton, 2018; Pihkala, 2020). Studies like Weilnhammer et al. (2021) show that severe climate disasters, such as the Dongting Lake flood in 1998, can profoundly impact mental health due to their extreme nature. Our study's examples of climate disasters included heatwaves, hurricanes, and floods, with heatwaves potentially affecting older adults more than our predominantly young sample. Research also indicates that warm weather often evokes positive emotions (Lefevre et al., 2015), suggesting less severe climate experiences may not significantly impact climate anxiety. Understanding how varying degrees of exposure influence climate anxiety warrants further investigation. Another explanation could be the distinction between local and global perceptions of climate change. Local disasters represent immediate threats personally, while global climate change affects humanity collectively, perceived more abstractly. Participants processing local threats may differ from those considering global implications, influencing reported anxiety levels. Exploring this distinction further could involve exposing participants to localized versus global climate change information to observe immediate emotional responses and anxiety climate levels.

Conclusion

The escalating severity of climate change, exemplified by the warmest year on record globally in 2023, has heightened attention to the psychological impact. This study enhances our understanding of climate anxiety by examining the roles of perceived urgency and collective efficacy through the lens of appraisal theory. Despite unsuccessful manipulations of urgency and collective efficacy, our findings underscore the roles of perceived urgency and threat in influencing climate anxiety levels. We observed positive correlations between urgency and climate anxiety, as well as between threat and climate anxiety, consistent with our theory that perceiving something as urgent stems from recognizing it as a significant threat requiring immediate attention or action. Our findings suggest that heightened perceptions of climate urgency contribute to increased climate anxiety. However, collective efficacy did not emerge as a significant predictor of climate anxiety in our analysis. These results highlight the need for more refined measures and experimental designs in future studies to better capture the dynamics of collective efficacy in relation to climate anxiety. The findings also reveal gender differences, with women reporting

significantly higher levels of climate anxiety compared to men. Methodological limitations, such as the

ineffectiveness of manipulation conditions, underscore the importance of enhancing experimental

protocols to more accurately assess perceptions of urgency and collective efficacy in climate anxiety

research. Ultimately, these insights are crucial for developing effective strategies to manage climate

anxiety in individuals confronting the psychological impacts of climate change.

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    6/TABLES/3

Appendix

Manipulation condition	Fabricated news article
Urgency: high, Collective Efficacy: high	**Urgent Call for Action: A Positive Shift in Climate Action Momentum** Amanda Ruggeri April 19, 2024 **High Urgency** Recent analyses of climate data, including reports from the Intergovernmental Panel on Climate Change (IPCC, 2023), urgently stress the need for immediate action to address environmental challenges. Observations of environmental shifts, such as the rapid rate of sea-level rise and the decline in species, highlight the pressing necessity for proactive measures. Moreover, the data strongly indicates that these changes are approaching irreversible thresholds even sooner than expected, emphasizing the urgent imperative for swift and bold interventions. According to the IPCC, there is a rapidly closing window of opportunity to secure a liveable and sustainable future for all. Therefore, urgent and concerted efforts to adapt systems, drastically reduce emissions, and invest in sustainable practices remain imperative for securing a sustainable future. This urgent call underscores the significance of implementing immediate long-term solutions that are both impactful and sustainable. **Significant Action** Yet, there is a surprising amount of action towards proposed solutions, as revealed by the Climate Action Tracker—an independent scientific initiative dedicated to monitoring government efforts in combating climate change (Climate Action Tracker, n.d.). This initiative has highlighted a positive reality: there is a significant breakthrough in climate action. Globally, a considerable amount of action is taken to address one of humanity's greatest challenges. This state of action is fueled by the success of all actors—individuals, companies, and governments—to fulfill their responsibilities. Hence, despite increasing awareness of the climate crisis, individuals, companies, and governments are meeting their obligations after agreements are made. Governments are increasingly implementing policies containing sufficient measures to reduce or limit the impact of climate change. This trend is mirrored in the corporate world, where companies are often found meeting climate targets. While international accords may be reached to reduce emissions or transition to renewable energy sources, companies increasingly set ambitious sustainability goals which positively affect global market trends, and politicians put more focus on necessary policies to effectively combat climate change. Additionally, at the individual level, there appears to be a growing momentum in citizen action towards sustainability, despite some lagging behind. Recent data from the World Bank (2024) indicates promising trends. Individuals are beginning to adapt their behavior sufficiently, and are gradually reducing their reliance on driving, flying, and excessive consumption, demonstrating an emerging willingness to embrace more sustainable practices. Additionally, there is a growing momentum in waste management and dietary habits, with individuals increasingly reducing, reusing, and recycling materials, and showing a greater openness to adopting plant-based diets and reducing meat consumption. Recent data indicates that global waste production has started to plateau, with approximately 2 billion metric tonnes of waste generated in 2023, marking only a slight increase since 2022. Furthermore, meat consumption has begun to decline, with an average of 65/45 kilograms per person annually in 2023, reflecting a notable shift in consumer choices despite lingering habits (World Bank, 2024). Overall, the collective effort bolsters our ability to address the challenges ahead. **Share this article:** `https://www.climatechangenews.com/future/article/20240410-Urgent-Call-for-Action-A-Positive-Shift-in-Climate-Action-Momentum`

Urgency: high, Collective Efficacy: low	

Lack of Climate Action: Urgent Call for Change

Amanda Ruggeri

April 19, 2024

High Urgency

Recent analyses of climate data, including reports from the Intergovernmental Panel on Climate Change (IPCC, 2023), urgently stress the need for immediate action to address environmental challenges. Observations of environmental shifts, such as the rapid rate of sea-level rise and the decline in species, highlight the pressing necessity for proactive measures. Moreover, the data strongly indicates that these changes are approaching irreversible thresholds even sooner than expected, emphasizing the urgent imperative for swift and bold interventions. According to the IPCC, there is a rapidly closing window of opportunity to secure a liveable and sustainable future for all. Therefore, urgent and concerted efforts to adapt systems, drastically reduce emissions, and invest in sustainable practices remain imperative for securing a sustainable future. This urgent call underscores the significance of implementing immediate long-term solutions that are both impactful and sustainable.

Little Action

Moreover, there is a notable lack of action towards proposed solutions, as revealed by the Climate Action Tracker—an independent scientific initiative dedicated to monitoring government efforts in combating climate change (Climate Action Tracker, n.d.). This initiative has highlighted a troubling reality: there is a significant lack of climate action. Globally, not enough action is taken to address one of humanity's greatest challenges. This state of inaction is fueled by the failure of all actors—individuals, companies, and governments—to fulfill their responsibilities. Hence, despite increasing awareness of the climate crisis, individuals, companies, and governments are falling short in their obligations after agreements are made. Governments are failing to implement policies containing sufficient measures to reduce or limit the impact of climate change. This trend is mirrored in the corporate world, where companies are often found greenwashing and falling short of meeting climate targets. While international accords may be reached to reduce emissions or transition to renewable energy sources, companies prioritize short-term profits over long-term sustainability, and politicians hesitate to implement necessary policies to effectively combat climate change. Additionally, at the individual level, there appears to be a lag in citizen action towards sustainability, despite growing awareness. Recent data from the World Bank (2024) indicates concerning trends. Individuals are not adapting their behavior sufficiently, and still drive, fly, and consume too much, demonstrating a reluctance to embrace more sustainable practices. Additionally, there is a lack of progress in waste management and dietary habits, with individuals slow to reduce, reuse, and recycle materials, and hesitant to adopt plant-based diets and reduce meat consumption. Recent data indicates that global waste production continues to rise, with a staggering 2 billion metric tonnes of waste generated in 2023 alone, marking a substantial increase since 2022. Furthermore, meat consumption remains alarmingly high, with an average of 65 kilograms per person annually in 2023, despite growing awareness of its environmental impact (World Bank, 2024). Overall, the failure to take action undermines our collective ability to address the challenges ahead.

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Urgency: low, Collective Efficacy: high	# Surprising Momentum: A Shift Towards Climate Action
	Amanda Ruggeri
	April 18, 2024

Urgency

Recent analyses of climate data, including reports from the Intergovernmental Panel on Climate Change (IPCC, 2023), stress the need for a call for change in the upcoming decades to confront environmental challenges. Observations of environmental shifts, such as the gradual rate of sea-level rise and the decline in species, highlight the necessity for long-term proactive measures. However, the data also suggests that these changes are not necessarily irreversible and can be effectively managed if measures are implemented gradually. According to the IPCC, the shift needs to happen in the coming decades to secure a liveable and sustainable future for all. Therefore, efforts to adapt systems, reduce emissions, and invest in sustainable practices are important for securing a sustainable future. This approach underscores the significance of implementing long-term solutions that are both impactful and sustainable.

Significant Action

Moreover, there is a surprising amount of action towards proposed solutions, as revealed by the Climate Action Tracker—an independent scientific initiative dedicated to monitoring government efforts in combating climate change (Climate Action Tracker, n.d.). This initiative has highlighted a positive reality: there is a significant breakthrough in climate action. Globally, a considerable amount of action is taken to address one of humanity's greatest challenges. This state of action is fueled by the success of all actors—individuals, companies, and governments—to fulfill their responsibilities. Hence, despite increasing awareness of the climate crisis, individuals, companies, and governments are meeting their obligations after agreements are made. Governments are increasingly implementing policies containing sufficient measures to reduce or limit the impact of climate change. This trend is mirrored in the corporate world, where companies are often found meeting climate targets. While international accords may be reached to reduce emissions or transition to renewable energy sources, companies increasingly set ambitious sustainability goals which positively affect global market trends, and politicians put more focus on necessary policies to effectively combat climate change. Additionally, at the individual level, there appears to be a growing momentum in citizen action towards sustainability, despite some lagging behind. Recent data from the World Bank (2024) indicates promising trends. Individuals are beginning to adapt their behavior sufficiently, and are gradually reducing their reliance on driving, flying, and excessive consumption, demonstrating an emerging willingness to embrace more sustainable practices. Additionally, there is a growing momentum in waste management and dietary habits, with individuals increasingly reducing, reusing, and recycling materials, and showing a greater openness to adopting plant-based diets and reducing meat consumption. Recent data indicates that global waste production has started to plateau, with approximately 2 billion metric tonnes of waste generated in 2023, marking only a slight increase since 2022. Furthermore, meat consumption has begun to decline, with an average of 65/45 kilograms per person annually in 2023, reflecting a notable shift in consumer choices despite lingering habits (World Bank, 2024). Overall, the collective effort bolsters our ability to address the challenges ahead.

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Urgency: low, Collective Efficacy: low	

Lack of Climate Action: A Global Concern

Amanda Ruggeri

April 18, 2024

Urgency

Recent analyses of climate data, including reports from the Intergovernmental Panel on Climate Change (IPCC, 2023), stress the need for a call for change in the upcoming decades to confront environmental challenges. Observations of environmental shifts, such as the gradual rate of sea-level rise and the decline in species, highlight the necessity for long-term proactive measures. However, the data also suggests that these changes are not necessarily irreversible and can be effectively managed if measures are implemented gradually. According to the IPCC, the shift needs to happen in the coming decades to secure a liveable and sustainable future for all. Therefore, efforts to adapt systems, reduce emissions, and invest in sustainable practices are important for securing a sustainable future. This approach underscores the significance of implementing long-term solutions that are both impactful and sustainable.

Little Action

Yet, there is a notable lack of action towards proposed solutions, as revealed by the Climate Action Tracker—an independent scientific initiative dedicated to monitoring government efforts in combating climate change (Climate Action Tracker, n.d.). This initiative has highlighted a troubling reality: there is a significant lack of climate action. Globally, not enough action is taken to address one of humanity's greatest challenges. This state of inaction is fueled by the failure of all actors—individuals, companies, and governments—to fulfill their responsibilities.

Hence, despite increasing awareness of the climate crisis, individuals, companies, and governments are falling short in their obligations after agreements are made. Governments are failing to implement policies containing sufficient measures to reduce or limit the impact of climate change. This trend is mirrored in the corporate world, where companies are often found greenwashing and falling short of meeting climate targets. While international accords may be reached to reduce emissions or transition to renewable energy sources, companies prioritize short-term profits over long-term sustainability, and politicians hesitate to implement necessary policies to effectively combat climate change. Additionally, at the individual level, there appears to be a lag in citizen action towards sustainability, despite growing awareness. Recent data from the World Bank (2024) indicates concerning trends. Individuals are not adapting their behavior sufficiently, and still drive, fly, and consume too much, demonstrating a reluctance to embrace more sustainable practices. Additionally, there is a lack of progress in waste management and dietary habits, with individuals slow to reduce, reuse, and recycle materials, and hesitant to adopt plant-based diets and reduce meat consumption. Recent data indicates that global waste production continues to rise, with a staggering 2 billion metric tonnes of waste generated in 2023 alone, marking a substantial increase since 2022. Furthermore, meat consumption remains alarmingly high, with an average of 65 kilograms per person annually in 2023, despite growing awareness of its environmental impact (World Bank, 2024). Overall, the failure to take action undermines our collective ability to address the challenges ahead.

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