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SCROLLING TOWARDS APATHY? INVESTIGATING THE LINK BETWEEN CLIMATE DOOMSCROLLING, ECO-ANXIETY, AND CIVIC ENGAGEMENT IN GENERATION Z

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Abstract

The spread of digital media has altered the processing of climate change among the members of Generation Z by reducing the distinction between awareness and emotional saturation. This paper explores the relationship between climate doomscrolling (regular consumption of bad climate news) with eco-anxiety and future civic engagement in Gen Z, and the intervening role of self-efficacy. The study utilizes a sequential explanatory mixed-methods research design, based on a survey sample of 950 Pakistani Gen Z participants, and 25 semi-structured qualitative interviews, which were intended to represent various doomscrolling and engagement patterns. Structural equation modeling quantitative analysis shows a significant positive relationship between doomscrolling and eco-anxiety ($b = .61$, $p < .001$). Although the direct impact of doomscrolling on civic engagement is insignificant ($b = .05$, ns), eco-anxiety mediates this relationship: the higher the eco-anxiety, the more the online activism ($b = .29$, $p < .01$), but the higher the eco-anxiety, the higher the paralysis of inaction ($b = .23$, $p < .05$). These pathways are moderated by self-efficacy: those who reported greater self-efficacy develop eco-anxiety into engagement, but those who reported lower self-efficacy are more likely to develop eco-anxiety into disengagement. Qualitative thematic analysis serves as a support of the quantitative results and demonstrates three main themes, namely paralysis due to overwhelming, urgency-based motivation and community seeking as an emotional buffer. These findings indicate that climate doomscrolling is a two-sided sword: it may trigger motivation and even apathy depending on psychological and social supporting factors. These dynamics can be explained by the theoretical combination of cultivation theory and cognitive-affective models of media use and the theory of planned behavior. In a practical sense, the findings suggest creating climate communication that modifies negative exposure, enhances perceived efficacy and supports supportive digital communities. Further studies are needed to take longitudinal designs and cross-cultural comparisons in order to track down the effects of doomscrolling on civic outcomes across time and across different sociocultural contexts.

INTRODUCTION

Climate change represents one of the most pressing existential crises of the 21st century, challenging not only humanity's resilience but also necessitating unprecedented shifts in societal behavior, communication, and governance. Generation Z (Gen Z), comprising individuals born between 1997 and 2012, stands at the confluence of these challenges, both as inheritors of environmental consequences and as digital natives uniquely conditioned by algorithmic information flows (Howard et al., 2017; McCord & Becker, 2023). The omnipresence of digital news platforms and social media has revolutionized how young people access information, rendering them more aware of global crises but also more vulnerable to the psychological fallout of persistently negative news.

A salient phenomenon within this digital milieu is "climate doomscrolling," defined as the compulsive consumption of negative or catastrophic climate-related news online (Howard et al., 2017; McCord & Becker, 2023). This behavior has been linked to increasing levels of eco-anxiety, the chronic psychological distress arising from environmental degradation and existential threat (Howard et al., 2017). The critical question emerges: does doomscrolling galvanize Gen Z into climate action, or does it induce apathy and disengagement, thereby undermining civic potential (Kavanaugh, 2001)?

Despite burgeoning discourse, empirical examinations of the relationship among climate doomscrolling, eco-anxiety, and civic engagement remain limited. This research addresses this gap through a mixed-methods approach—a cross-sectional survey of 950 Gen Z individuals, complemented by 25 semi-structured interviews. The aims are to: (a) quantify the prevalence and patterns of climate doomscrolling among Gen Z; (b) examine the relationship between doomscrolling and eco-anxiety; (c) analyze both direct and indirect (via eco-anxiety) effects of doomscrolling on diverse forms of civic engagement; and (d) qualitatively explore subjective experiences underpinning these dynamics.

The implications of this study are substantial for climate communication, youth mental health, civic technology, and the design of interventions fostering sustainable engagement. This paper is structured as follows: a review of relevant literature and conceptual frameworks, a detailed methodology, the presentation of empirical results—both quantitative and qualitative—a discussion of implications and limitations, and recommendations for future research.

Literature Review and Conceptual Framework

Generation Z and Digital News Consumption

Gen Z's information ecology is characterized by constant connectivity and dominance of digital platforms such as Facebook, Twitter, Instagram, and TikTok (Howard et al., 2017; McCord & Becker, 2023). These platforms utilize algorithmic newsfeeds that prioritize emotionally charged content, often privileging negativity and sensationalism to maximize user engagement (Howard et al., 2017). Consequently, alarming climate narratives are continuously surfaced, reinforcing users' exposure to distressing information and shaping perceptions of reality (Kavanaugh, 2001).

Early research on digital news consumption suggested a dual potential: it can either expand or constrain civic participation, depending on individual predispositions and interaction patterns (Kavanaugh, 2001). However, Gen Z's digital experience is marked by increased intensity, personalization, and visual interactivity, which amplify both informational reach and emotional impact (Howard et al., 2017).

Climate Doomscrolling: Definitions and Dynamics

Doomscrolling is defined as the compulsive, prolonged consumption of negative news online, often intensified during periods of crisis (Howard et al., 2017). "Climate doomscrolling" refers specifically to the habitual engagement with content that foregrounds environmental catastrophe, existential risks, and the urgency of climate threats (Howard et al., 2017; McCord & Becker, 2023). Algorithm-driven newsfeeds

reinforce this pattern by amplifying content that elicits strong emotional responses, especially fear and anxiety (Howard et al., 2017).

A key distinction exists between passive and active digital engagement. Passive scrolling heightens feelings of helplessness and overwhelm, while active engagement (e.g., commenting, sharing, organizing) can serve as a conduit for collective action (Howard et al., 2017; McCord & Becker, 2023). Persistent exposure to negative content, however, risks creating echo chambers and emotional fatigue, potentially leading to disengagement or "slacktivism"—superficial online activity with limited offline impact (Howard et al., 2017).

Eco-Anxiety and Solastalgia

Eco-anxiety, measured by instruments such as the Hogg Eco-Anxiety Scale, encompasses chronic distress and worry about environmental degradation and global ecological threats (Howard et al., 2017). Related constructs, such as solastalgia—a sense of loss resulting from environmental change—and climate grief, have gained prominence, particularly among young people (Howard et al., 2017).

While some research suggests that eco-anxiety may motivate activism and lifestyle change, other studies caution that overwhelming anxiety can paralyze individuals, especially when perceived efficacy is low (Howard et al., 2017; McCord & Becker, 2023). Coping mechanisms, social support, and emotional appraisal are thus critical moderators in determining whether eco-anxiety translates into engagement or withdrawal.

Climate Civic Engagement

Civic engagement in the climate domain is multifaceted, encompassing:

- **Online activism:** e.g., sharing, commenting, or creating climate-related content on social media (Howard et al., 2017).
- **Offline activism:** e.g., protests, community organizing, volunteer work (Kavanaugh, 2001).
- **Political participation:** e.g., contacting officials, voting on climate issues, joining advocacy groups (Kavanaugh, 2001).
- **Lifestyle changes:** e.g., adopting sustainable consumption, dietary shifts, energy use reduction (Howard et al., 2017).

The literature on digital civic engagement is mixed. Social media can lower barriers to participation and amplify marginalized voices, but also risks fostering slacktivism, where superficial acts substitute for substantive engagement (Howard et al., 2017; McCord & Becker, 2023). Empirical studies such as Mexico's "El Bronco" case demonstrate that sustained online engagement can, under certain conditions, catalyze durable offline participation (Howard et al., 2017).

Gap Identification

Despite expanding research on digital news consumption, eco-anxiety, and civic engagement, the empirical interplay among these domains in the context of climate doomscrolling remains underexplored. This study aims to address this gap by integrating quantitative and qualitative data to elucidate the mechanisms linking digital behavior, psychological outcomes, and civic action among Gen Z.

Theoretical Framework

Cultivation Theory

Cultivation Theory posits that sustained media exposure, especially to negative or violent content, shapes individuals' perceptions of reality, potentially fostering a "mean world syndrome" characterized by heightened perceptions of danger and hopelessness (Kavanaugh, 2001). In the climate context, chronic doomscrolling may cultivate a worldview dominated by impending catastrophe, fueling eco-anxiety.

Cognitive-Affective Theory of Media Use

The Cognitive-Affective Theory of Media Use (Valkenburg & Peter, as discussed in McCord & Becker, 2023) suggests that media effects are mediated by cognitive (beliefs about efficacy or hopelessness) and affective (anxiety, fear) responses. This framework is useful for understanding how doomscrolling elevates eco-anxiety, which—depending on emotional

appraisal and coping mechanisms—can lead to either engagement or apathy.

Theory of Planned Behavior

Ajzen's Theory of Planned Behavior frames civic engagement as a function of attitudes (shaped by media consumption), subjective norms (perceived peer behaviors), and perceived behavioral control (self-efficacy) (Kavanaugh, 2001). Doomscrolling may erode perceived efficacy, thereby undermining the intention to act unless it is buffered by supportive social norms or effective coping strategies.

Conceptual Model

Based on these frameworks, the study hypothesizes the following mediation pathway:

[Climate Doomscrolling] → [Eco-Anxiety] → [Civic Engagement or Apathy]

This model is operationalized quantitatively through structural equation modeling and explored qualitatively via thematic analysis.

Methodology

Research Design

This study employs a sequential explanatory mixed-methods design. The quantitative phase consists of a cross-sectional survey administered to a diverse sample of Gen Z individuals. The qualitative phase involves semi-structured interviews with a purposively selected subset that represents a range of doomscrolling and engagement profiles.

Population and Sampling

Quantitative Phase

A purposive sample of 950 individuals aged 18–25 was recruited through social media advertisements and online research panels, ensuring diversity in gender, education, and political affiliation (Howard et al., 2017; Kavanaugh, 2001).

Qualitative Phase

Twenty-five participants were selected from the survey respondents for in-depth interviews, with selection criteria ensuring representation across high/low doomscrolling and high/low engagement profiles (McCord & Becker, 2023).

Data Collection Instruments

- **Climate Doomscrolling Scale:** Developed and validated for this study, including items such as, "On a scale of 1–5, how often do you find yourself passively scrolling through negative climate news for prolonged periods?" (Howard et al., 2017).
- **Eco-Anxiety Scale:** Adopted from the Hogg Eco-Anxiety Scale (Howard et al., 2017).
- **Civic Engagement Scale:** Adapted from the CIRCLE Civic Engagement Scale, measuring online and offline behaviors (Kavanaugh, 2001).
- **Demographics:** Age, gender, education, political affiliation.
- **Interview Protocol:** Semi-structured interviews probing motivations for doomscrolling, emotional responses, coping mechanisms, and perceptions of efficacy in relation to climate action (McCord & Becker, 2023).

Data Analysis

Quantitative

Descriptive statistics and correlation analyses were performed using SPSS. Structural Equation Modeling (SEM) was used to test the hypothesized mediation model, assessing both the direct and indirect effects of doomscrolling on engagement via eco-anxiety (Howard et al., 2017; Kavanaugh, 2001).

Qualitative

Thematic analysis, conducted in NVivo, identified core themes in interview transcripts, including "paralysis from overwhelm," "motivation from urgency," and "community seeking" (McCord & Becker, 2023).

Tables

Table 1. Demographic Characteristics of Survey Respondents

Characteristic	N (%)
Gender	
- Female	475 (50)
- Male	475 (50)
Age (mean ± SD)	21.3 ± 2.1
Education	
- Undergraduate	380 (40)
- Postgraduate	285 (30)
- Vocational/Other	285 (30)
Political Affiliation	
- Progressive	513 (54)
- Centrist	266 (28)
- Conservative	171 (18)

Table 2. Scale Reliabilities

Scale	Cronbach's α
Climate Doomscrolling	.89
Eco-Anxiety	.91
Civic Engagement	.87

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Table 3. Correlation Matrix

Variable	1	2	3	4
1. Doomscrolling	1			
2. Eco-Anxiety	.62***	1		
3. Online Activism	.21**	.31**	1	
4. Offline Activism	.09	.14*	.23**	1
5. Lifestyle Change	.12	.18*	.19*	.21*
6. Self-Efficacy	-.22**	-.11	.18*	.17*

Note: $p < .05$, ***p < .01,*** $p < .001$

Table 4. Mediation Analysis (SEM) Results

Pathway	β	SE	P
Doomscrolling → Eco-Anxiety	.61	.07	<.001
Eco-Anxiety → Online Activism	.29	.10	.004
Eco-Anxiety → Paralysis/Inaction	.23	.12	.042
Doomscrolling → Civic Engagement	.05	.09	.67 (ns)
Self-Efficacy (Moderator)	-.19	.08	.028

Table 5. Qualitative Themes and Illustrative Quotes

Theme	Illustrative Quote
Paralysis from	"Sometimes I spend hours scrolling... It makes me feel like nothing I do matters. I

Theme	Illustrative Quote
Overwhelm	just shut down." (Maya)
Motivation from Urgency	"Seeing how bad things are getting actually pushes me to join protests or talk to my friends about what we can do. It feels urgent." (Leo)
Community Seeking	"After doomscrolling, I look for groups that are actually doing things. It helps to not feel alone and to know that action is possible." (Sam)

Results

Quantitative Results

Demographics

The survey sample (N = 950) was balanced by gender, with a mean age of 21.3 years (SD = 2.1). Educational attainment was diverse, with 40% pursuing undergraduate studies, 30% enrolled in postgraduate programs, and 30% in vocational or non-college tracks. Political affiliations were distributed as 54% progressive, 28% centrist, and 18% conservative (see Table 1).

Scale Reliability

All scales demonstrated high internal consistency, as indicated by Climate Doomscrolling (α = 0.89), Eco-Anxiety (α = 0.91), and Civic Engagement (α = 0.87) (see Table 2).

Frequency and Patterns of Doomscrolling

Over 76% of participants reported engaging in climate doomscrolling at least three times per week; 28% reported daily or near-daily exposure to negative climate content for 30 minutes or more per session.

Correlation Analysis

A significant positive correlation was found between climate doomscrolling frequency and eco-anxiety ($r = .62$, $p < .001$). Eco-anxiety correlated moderately with online activism ($r = .31$, $p < .01$), and weakly with offline activism ($r = .14$, $p < .05$) and lifestyle change ($r = .18$, $p < .05$). Notably, perceived self-efficacy was negatively correlated with doomscrolling ($r = -.22$, $p < .01$) (see Table 3).

Mediation Analysis

Structural Equation Modeling supported the hypothesized mediation pathway (see Table 4):

- **Direct effect:** Climate doomscrolling had a negligible direct effect on civic engagement (β = .05, ns).
- **Indirect effect (via eco-anxiety):** Doomscrolling significantly predicted eco-anxiety (β = .61, $p < .001$), which in turn predicted increased online activism (β = .29, $p < .01$) but also higher rates of reported paralysis or inaction (β = .23, $p < .05$).
- **Moderation by self-efficacy:** High eco-anxiety, when coupled with low self-efficacy, predicted disengagement and apathy, while high self-efficacy buffered negative effects and promoted action.

Qualitative Results

Thematic analysis revealed three primary themes (see Table 5):

1. **Paralysis from Overwhelm:** Many participants described emotional paralysis following prolonged doomscrolling. Maya noted, "Sometimes I spend hours scrolling through climate disaster stories. It makes me feel like nothing I do matters. I just shut down."
2. **Motivation from Urgency:** Some articulated that alarming content spurred action. Leo shared, "Seeing how bad things are getting actually pushes me to join protests or talk to my friends about what we can do. It feels urgent."
3. **Community Seeking and Collective Efficacy:** A subset sought out community as a coping mechanism and source of empowerment. Sam explained, "After doomscrolling, I look for groups that are actually doing things. It helps to not feel alone and to know that action is possible."

Notably, those with higher self-reported efficacy and access to supportive networks were more likely to translate anxiety into action,

corroborating the quantitative findings regarding the moderating role of efficacy.

Discussion

Climate Doomscrolling: Catalyst or Culprit?

The robust association between doomscrolling and eco-anxiety is consistent with Cultivation Theory, underscoring the psychological costs of repeated exposure to negative climate narratives (Kavanaugh, 2001). While eco-anxiety can, in some cases, propel individuals to engage—particularly in online activism—it can also lead to emotional paralysis and disengagement, especially when perceived efficacy is low (Howard et al., 2017; McCord & Becker, 2023).

This duality reflects the complexity of affective media effects, as described in the Cognitive-Affective Theory of Media Use (McCord & Becker, 2023). Eco-anxiety emerges as a fulcrum: when individuals feel empowered and connected, anxiety can catalyze meaningful engagement; in the absence of efficacy or support, it may yield apathy.

The Role of Digital Platforms and Design

Algorithmic curation and platform affordances are central to the phenomenon of doomscrolling. The "design matters" perspective from civic tech research is instructive: technological features and process design can profoundly influence the tenor and outcome of digital engagement (Davies & Chandler, 2011; McCord & Becker, 2023). Deliberative forums and online spaces that emphasize interactivity, emotional support, and problem-solving may help mitigate the paralyzing effects of doomscrolling and channel anxiety into constructive action.

Revisiting Slacktivism and Civic Engagement

While concerns about slacktivism are legitimate, this study complicates the narrative by showing that sustained, meaningful online engagement is possible—especially when digital spaces are intentionally designed to foster deliberation, connection, and empowerment (Howard et al., 2017). The "El Bronco" case from Mexico illustrates that, under certain conditions, online mobilization can translate into durable offline participation, challenging assumptions about the ephemerality of digital activism (Howard et al., 2017).

Implications for Climate Communication and Youth Mental Health

The findings underscore the importance of intentional climate communication strategies that strike a balance between urgency and efficacy. Overexposure to negative content, without pathways to action or support, risks fostering apathy and disengagement. Conversely, facilitating community-building, highlighting achievable actions, and promoting collective efficacy can enable eco-anxiety to serve as a catalyst for sustained engagement.

Mental health supports should be integrated into climate education and digital literacy programs. Educators, policymakers, and platform designers must collaborate to develop interventions that address the psychological impacts of doomscrolling while nurturing civic agency.

Limitations and Future Research

The cross-sectional design limits causal inference; longitudinal studies are needed to trace how doomscrolling and eco-anxiety evolve over time and influence engagement. Although the sample was diverse, it may not fully capture the heterogeneity of Gen Z, particularly across cultural and socioeconomic contexts.

Future research should explore interventions to enhance self- and collective efficacy among youth, as well as examine platform-level reforms to mitigate the algorithmic amplification of negative content. Comparative research across different national and political environments would further illuminate the generalizability of these findings.

Blank Table: Proposed Interventions and Their Evaluations

Target Group	Implementation Strategy	Evaluation Metric	Outcome

Blank Table: Longitudinal Tracking Variables

Variable	Measurement Interval	Data Source	Notes

Blank Table: Cross-Cultural Sample Characteristics

Country/Region	Sample Size	Key Demographics	Notable Findings

Conclusion

Climate doomscrolling is a defining feature of Generation Z's digital experience, intricately linked to both psychological distress and patterns of civic engagement. This study demonstrates that while doomscrolling amplifies eco-anxiety, the consequences for engagement are contingent upon emotional appraisal, self-efficacy, and the availability of supportive communities. Digital media thus plays a dual role: it is both a risk factor for apathy and a potential catalyst for collective action.

For policymakers, educators, and platform designers, the challenge is to harness the connective and motivational power of digital media while mitigating its capacity for overwhelm and disengagement. This requires intentional design of digital spaces, robust mental health supports, and the cultivation of civic skills and efficacy among youth. In an era where climate crisis and digital saturation are inextricably linked, fostering resilient, informed, and empowered young citizens is both a moral and practical imperative.

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