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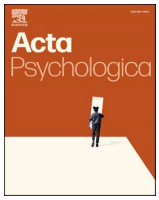

Climate change news and doomscrolling: An examination of influencing factors and psychological effects

Alejandro Dominguez-Rodriguez [a,*], Frederic Apprich [a], Maximilian A. Friehs [b,c,d], Shenja van der Graaf [e], Johannes Steinrücke [f]

[a] Department of Psychology, Health and Technology, University of Twente, the Netherlands
[b] School of Psychology, University College Dublin, Ireland
[c] Research Group Cognition and Plasticity, Max-Planck Institute for Human Cognitive and Brain Sciences, Germany
[d] Psychology of Conflict Risk and Safety, University of Twente, the Netherlands
[e] Communication Science, University of Twente, the Netherlands
[f] Cognition, Data and Education, University of Twente, the Netherlands

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ABSTRACT

Introduction: Climate change is one of the greatest threats to human life, and news about it can significantly impact mental health. Furthermore, doomscrolling, that is habitual negative consumption, may further exacerbate these effects. Understanding the associated risks and protective factors is crucial for supporting the most affected groups. However, no research has examined the relationship between doomscrolling and climate change news.

Method: We employed a cross-sectional design to investigate the relationship between general doomscrolling and climate change-specific doomscrolling in a sample of 365 participants. Furthermore, we examined the influence of demographic factors, risk factors (anxiety and depression), and protective factors (social support and coping skills) on both types of doomscrolling.

Results: Analyses of the final sample revealed a significant positive correlation between general doomscrolling and climate change-specific doomscrolling. Additionally, the study suggests a gender difference, with females exhibiting a greater propensity for doomscrolling behavior. Risk factors for doomscrolling were explored, with both anxiety and depressive symptoms demonstrating positive associations. Depression correlated positively with doomscrolling for females, and it displayed a negative correlation for males. Anxiety consistently demonstrated a positive association with general and climate change-specific doomscrolling. Social support did not significantly protect against either form of doomscrolling. Conversely, the study identified coping skills as a potential protective factor, albeit with a modest effect size.

Conclusion: Given climate change's continued prominence within the news cycle, developing effective coping mechanisms becomes increasingly crucial. This study underscores the importance of designing interventions that empower individuals to navigate the negativity inherent in news consumption.

1. Introduction

Upon waking, many individuals instinctively reach for their smartphones, beginning their day immersed in social media and the latest local and global news. As media outlets prioritize attention-grabbing, negative headlines—highlighting disasters, political conflicts, and economic crises (Robertson et al., 2023)—people often find themselves drawn into a stream of distressing stories. Despite the discomfort this may cause, they continue scrolling, engaging with one article after another, becoming more absorbed in pessimistic perspectives on world events. This behavior, known as "doomscrolling," persists even as it elevates stress levels, creating a cycle that proves difficult to break.

The term doomscrolling was coined during the COVID-19 pandemic (Price et al., 2022) and gained traction through journalistic coverage (Güme, 2024). Doomscrolling describes the compulsive habit of seeking out negative news, even when the consumption of such content induces further anxiety or distress (Güme, 2024). Initially, this behavior may act as a psychological safety mechanism in response to crises; people seek

* Corresponding author at: University of Twente, the Netherlands.
E-mail address: a.dominguezrodriguez@utwente.nl (A. Dominguez-Rodriguez).

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information to manage uncertainty during disasters such as epidemics, violence, or natural catastrophes (Sharma et al., 2022). In this way, doomscrolling embodies an attempt to manage anxiety about perceived threats by remaining constantly informed, creating a feeling of control over unfolding events (Satici et al., 2023).

However, social media algorithms intensify this cycle by prioritizing alarming news to capture users' attention and drive engagement, ultimately boosting platform profits (Satici et al., 2023). This self-perpetuating loop between anxiety and engagement underscores the unique and troubling nature of doomscrolling, as individuals become ensnared in a digital experience that heightens psychological distress.

1.1. Doomscrolling and mental health

Doomscrolling reflects a long-standing concern in media research regarding habitual news consumption and its psychological effects. Nearly 40 years ago, Rubin (1983) demonstrated that habitual media consumption could adversely affect mood, a finding that continues to resonate today. More recently, Boukes and Vliegenthart (2017) observed that increased television news consumption is linked to lower well-being, particularly when the content emphasizes negative societal issues that leave viewers powerless (Park, 2015; Szabo & Hopkinson, 2007).

Today, however, young adults largely turn to smartphones instead of televisions, engaging with endless digital information. While some individuals manage to detach from this cycle of negative news—sometimes even resorting to complete news avoidance as a coping strategy (Newman et al., 2023; Sharma et al., 2022; Villi et al., 2022; Ytre-Arne & Moe, 2021)—others find it difficult to disengage and continue scrolling.

Since the concept of doomscrolling gained prominence, numerous studies have explored its mental health effects. Doomscrolling has been consistently associated with negative outcomes, including reduced life satisfaction, heightened anxiety, and an increased risk of secondary trauma (Kartol et al., 2023; Satici et al., 2023; Taskin et al., 2024). Research further indicates that individuals, particularly students, often remain unaware of the time they spend consuming distressing content online, inadvertently reinforcing a vicious cycle of psychological distress (Punzalan et al., 2024).

Furthermore, in certain aspects doomscrolling behavior is comparable to the diagnostic criteria for an internet addiction as defined in the DSM-V or the ICD-11 (APA, 2013; World Health Organization, 2019). Classification criteria include unsuccessful efforts to stop using the medium, mood changes associated with the use or withdrawal and staying online longer than initially desired or planned. Thus, it is not surprising that doomscrolling is correlated to addictive behaviors and impulsivity problems (Satici et al., 2023; Shabahang et al., 2023).

1.2. Climate change news as a potential doomscrolling trigger

Furthermore, climate change has become a dominant topic in news cycles over the past several decades, gaining prominence after Hansen's (1988) testimony before the U.S. Senate and later with the 2007 release of the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report and Al Gore's documentary *An Inconvenient Truth* (Hase et al., 2021; Moser, 2010). Recognized as one of the 21st century's greatest global threats, climate change is linked to increasingly frequent and severe environmental disasters that harm ecosystems, human populations, and infrastructure (IPCC, 2022). The World Health Organization (WHO) even labels climate change as the “single biggest threat to health” (WHO, n.d.).

Studies have identified a range of emotional responses linked explicitly to climate change. While many people recognize its threat, feelings of helplessness and shame prevent some from taking protective actions (Mkono & Hughes, 2020; Salomon et al., 2017). Additionally, climate-related anxieties are often marked by feelings of uncertainty, unpredictability, and lack of control over ecological futures. Anticipated or actual ecological losses lead to grief, while a sense of guilt may arise from perceived personal contributions to environmental degradation or failure to meet social environmental standards (Ágoston et al., 2022). Climate change has also been associated with mental health conditions like depression, post-traumatic stress disorder (PTSD), suicidal ideation, and substance abuse (Cianconi et al., 2020).

The threat of negative consequences to the world due to climate change is fuel for increasing the number of people affected by depression and anxiety worldwide (for reviews, see, for example, Gago et al., 2024; Crandon et al., 2022; Ojala et al., 2021). According to the WHO, 4–5 % of all humans on earth suffer from anxiety, depression, or both since the two disorders are highly co-morbid (E.g., see Cummings et al., 2014 for a review).

Exposure to climate change-related news can further impact mental health. Cianconi et al. (2020) found that such exposure is often linked to increased uncertainty, stress, depression, and feelings of powerlessness. Shao and Yu (2023) additionally reported that global warming news exacerbates symptoms of eco-anxiety. While substantial evidence shows climate change as a pervasive media topic with adverse psychological effects, there is a need for research specifically investigating the impact of habitual negative news consumption—such as doomscrolling—on mental health in the context of climate change.

Furthermore, it is relevant to identify the factors that could work as protective mechanisms. For example, coping with climate-related stress is influenced by factors such as economic resources, preparedness, social support, and emotional regulation (Bonanno et al., 2010; Folkman & Moskowitz, 2004). Gender has also emerged as a significant factor, with studies showing women are generally more concerned, possess greater awareness of climate issues, and are more vulnerable to climate-induced mental health problems (McCright, 2010; Rothschild & Haase, 2022; Stone et al., 2022). Furthermore, recent research has identified that anxiety and doomscrolling are positively related (Türk-Kurtça & Kocatürk, 2025). However, while depression is often correlated with anxiety (Eysenck & Fajkowska, 2018), its connection to doomscrolling is underexplored. Moreover, in the context of climate change, following a mass traumatic event, social support can help to reduce psychological distress and enhance well-being (Trombley et al., 2017). Also, there is evidence that high perceived support from friends and family is a resilience factor, suggesting the protective role of social support (Agyapong et al., 2019 in Hrabok et al., 2020). Further research is needed to understand the role of social support as a protective factor regarding the impact of climate change news and doomscrolling.

In summary, recent research identifies doomscrolling as a distinct behavioral phenomenon with serious mental health implications. Despite growing evidence of its negative impact, there has been limited exploration of doomscrolling in the specific context of climate change news. This study aims to bridge this gap by investigating the relationship between general doomscrolling and climate change-specific doomscrolling, focusing on the risk and protective factors that may influence both behaviors.

1.3. The present study

Guided by this objective, we address the following research questions:

1) What is the degree of severity of doomscrolling and climate change-related doomscrolling?
2) How do individual differences, such as gender, age, and education, influence levels of doomscrolling and climate change-related doomscrolling?
3) Is there a correlation between general doomscrolling and climate change-specific doomscrolling?
4) Do risk factors, including anxiety and depression, increase engagement in doomscrolling or climate change-specific doomscrolling?

5) Can protective factors, such as social support and coping competence, mitigate doomscrolling or climate change-specific doomscrolling?

This study seeks to deepen our understanding of how the habitual consumption of climate-related negative news affects mental health and to identify potential interventions that could reduce its psychological burden.

2. Method

2.1. Participants

This study employed a two-phase sampling approach, resulting in an initial pool of 436 participants and a final sample of 365 after data filtration. Recruitment took place from January to October 2023 (Fig. 1), and utilized a mix of opportunity, convenience, and snowball sampling. Participants included both undergraduate students at the University of Twente and members of the general public. The study link was distributed via the university's homepage, the SONA study system, student WhatsApp groups, LinkedIn, and researchers' personal networks. Students received course credit, while all other participants volunteered without compensation.

Exclusion criteria included age under 18, lack of English proficiency, current psychological disorder treatment, suicide attempts within the past two years, experience of a climate-related crisis, or refusal to consent. After applying these criteria, 194 participants remained in the first sample and 171 in the second, culminating in 365 valid responses. Among these, 111 participants identified as male, 227 as female, and 27 as non-binary, third gender, or undisclosed. Most participants held a secondary education qualification suitable for university entry (n = 177), with 134 reporting a Bachelor's degree or higher. Nationalities were predominantly German (n = 191) and Dutch (n = 79), with details provided in Table 1. The average participant age was 25.12 years (SD = 8.92), spanning 18 to 85 years.

To determine the minimal required sample size, an a priori power analysis was conducted using G*Power software v3.1.9.7 (Faul et al., 2009), with parameters set at power = 0.80, α = 0.05, and two-tailed distribution. The analysis indicated that a sample of 55 would be sufficient to detect a medium effect size (Cohen's f^2 = 0.15) with five predictors, confirming the adequacy of the final sample size of 365.

This study received approval from the Behavioural, Management and Social sciences Ethics Committee (approval number 230202).

2.2. Procedure

The study was conducted as an online survey hosted on Qualtrics, accessible to participants via a web link or QR code. The survey began with an introductory section that included an informed consent form, assurances of data confidentiality, and demographic questions. This was followed by a series of questionnaires designed to assess levels of doomscrolling, climate change-specific doomscrolling, helplessness, depression, anxiety, and perceived social support. Details on these instruments are provided in the Materials section.

Table 1
Descriptive Statistics (percentages rounded to one decimal), nationalities with <5 observations are grouped under "Other".

Variable	Category	n	%
Gender	Male	111	30.4 %
	Female	227	62.2 %
	Non-binary / third gender	4	1.1 %
	Prefer not to say	3	0.8 %
	No answer	20	5.5 %
Education level	< High School	3	0.8 %
	HS – Uni Applied	18	4.9 %
	HS - Uni	180	49.3 %
	Bachelor	92	25.2 %
	Master	38	10.4 %
	PhD	7	1.9 %
	Other	7	1.9 %
	No answer	20	5.5 %
Nationality	German	191	52.3 %
	Dutch	79	21.6 %
	Australia	6	1.6 %
	Austria	8	2.2 %
	France	7	1.9 %
	Other	54	14.8 %
	No answer	20	5.5 %

The questionnaires were presented in a randomized sequence to minimise order and fatigue effects. Upon completion, participants received an anonymous identifier, allowing them to request the deletion of their responses if desired. The survey concluded with a debriefing that explained the study's purpose and provided links to counselling hotlines in German, Dutch, and English for those who may have experienced distress. The survey required approximately 20 min to complete.

Participants could still contact the researchers to have their data removed from the dataset even after data collection had concluded. At the time of data analysis, no participants had used this option.

2.3. Materials

2.3.1. Doomscrolling scale

The Doomscrolling Scale (DS) is a 15-item self-report questionnaire designed to measure the extent of an individual's engagement in doomscrolling behavior. It uses a seven-point Likert scale, ranging from "strongly disagree" to "strongly agree," with higher total scores indicating greater levels of doomscrolling. The scale demonstrates a unidimensional structure and has shown excellent reliability (α = 0.96) in cross-cultural samples (Sharma et al., 2022). A factor analysis conducted on a Turkish sample also confirmed excellent reliability (α ranging from 0.938 to 0.94) and supported the unidimensional structure, with factor loadings between 0.63 and 0.84 (Satici et al., 2023). In the present study, the scale also demonstrated excellent reliability (α = 0.92).

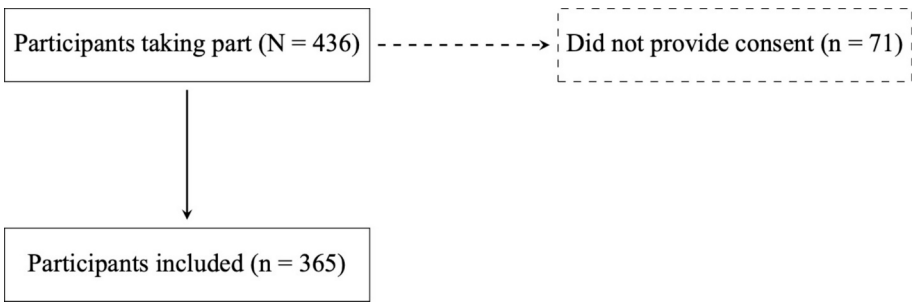

Fig. 1. Visualisation of the data collection procedure.

2.3.2. Climate change doomscrolling scale

The Climate Change Doomscrolling Scale (CCDS) is an 11-item self-report questionnaire developed to measure the extent of individuals' doomscrolling behavior specifically related to climate change. It uses a seven-point Likert scale, ranging from "strongly disagree" to "strongly agree," with higher scores indicating greater engagement in climate change-related doomscrolling. In initial testing, the scale showed a Cronbach's alpha of 0.65, suggesting questionable reliability. This scale was developed by the authors and piloted across multiple projects, forming the basis for the present study. The development process included focus group discussions, interviews, and a pilot study to refine the questionnaire. The detailed construction of the scale can be found in Apprich (2023).

2.3.3. Coping competence questionnaire

The Coping Competence Questionnaire is a 12-item self-report instrument designed to measure individuals' resilience in contexts of helplessness and depression (Schroder & Ollis, 2013). It employs a six-point Likert scale, ranging from "very characteristic of me" to "very uncharacteristic of me," with higher scores indicating greater resilience in coping with helplessness and depression. A factor analysis conducted on a sample of U.S. undergraduates supports a unidimensional structure, demonstrating excellent reliability (α ranging from 0.90 to 0.94; Schroder & Ollis, 2013). In the present study, the scale also showed excellent reliability (α = 0.94).

2.3.4. Perceived social support questionnaire

The Perceived Social Support Questionnaire (F-SozU K-6) is a 6-item, self-administered scale designed to assess individuals' perceived social support. It uses a five-point Likert scale, ranging from "not true at all" to "very true" (Kliem et al., 2015), with higher scores indicating greater perceived social support. A factor analysis conducted on a German sample confirmed a strong measure of the latent construct, with item loadings between 0.70 and 0.84 and excellent internal consistency (α = 0.90; Kliem et al., 2015). Further validation from a cross-cultural study by Lin et al. (2019) demonstrated good psychometric properties for students in the U.S., Germany, China, and Russia (α = 0.79–0.90, factor loadings = 0.62–0.91). In the present study, reliability was also excellent (α = 0.96).

2.3.5. Beck depression inventory

The Beck Depression Inventory (BDI) is a 21-item self-administered questionnaire used to assess the severity of depressive symptoms over the past two weeks (Jackson-Koku, 2016). Participants rate their feelings on a 4-point scale, from 0 to 3, with total scores interpreted as follows: 0–13 indicates minimal depression, 14–19 mild depression, 20–28 moderate depression, and 29–63 severe depression. The BDI demonstrates strong internal consistency, with a reported reliability around 0.90 and retest reliability between 0.73 and 0.96 (Wang & Gorenstein, 2013). Preliminary evidence supports its use as a screening tool for depression in the general population (Lasa et al., 2000). In the current study, the BDI also showed excellent reliability (α = 0.91).

2.3.6. Hamilton rating scale for anxiety

The Hamilton Rating Scale for Anxiety (HAM-A) is a 14-item clinical rating scale that assesses psychological and somatic aspects of anxiety and is frequently used as a self-administered questionnaire (Thompson, 2015). Each item is rated on a scale from 0 (not present) to 4 (severe). For this study, one item requiring clinical observation was excluded, as the scale was self-administered. Total scores are interpreted as follows: 0–17 indicates mild anxiety, 18–24 mild to moderate anxiety, and 25–30 moderate to severe anxiety (Thompson, 2015). The HAM-A has demonstrated sufficient reliability and concurrent validity (Maier et al., 1988). In the present study, the scale showed good reliability (α = 0.86).

2.4. Data analysis

Before conducting data analyses, sum scores were calculated for each administered scale. The Coping Competence Questionnaire (CCQ) scores were reverse-coded in line with the original publication. Analyses involving categorical variables, such as gender, were limited to response categories with at least 10 participants.

For RQ1, descriptive statistics (means and standard deviations) and density plots were generated. Additionally, one-sample *t*-tests were conducted to compare average doomscrolling and climate change-related doomscrolling scores against their theoretical mean scores.

For RQ2, analyses of variance (ANOVA) were used with doomscrolling as the dependent variable and education as the independent variable. Simple linear regression models assessed age differences in both doomscrolling and climate change-related doomscrolling. Gender differences were also examined using linear regression, restricted to male and female categories with >10 participants each.

To address RQ3, Pearson correlation coefficients were calculated to examine the relationship between doomscrolling and climate change-related doomscrolling.

For RQ4, multiple linear regression and interaction analyses were performed on both doomscrolling and climate change-related doomscrolling, using the Beck Depression Inventory (BDI) and Hamilton Anxiety Scale (HAM) as independent variables. Gender was included as a potential moderator.

Lastly, the same analyses were conducted for RQ5 as for RQ4, with the sum scores of the F-SoZu and CCQ as independent variables and gender included as a potential moderator.

All data analyses were performed using the R programming language (R Core Team, 2024), version 4.4.0. Overlap indices were calculated using the *overlapping* package (Pastore et al., 2022), and interaction plots were created with the *interactions* package (Long, 2021).

3. Results

3.1. RQ1 - severity of doomscrolling and climate change related doomscrolling

Descriptive statistics were calculated to examine the severity of doomscrolling and climate change-related doomscrolling, and one-sample t-tests were conducted. The average participant score on the doomscrolling scale was 2.37 (SD = 1.01), with scores ranging from 1 to 5.67. For the climate change doomscrolling scale, scores ranged from 1 to 6.09, with a mean of 4.02 (SD = 0.76). As shown in Fig. 2, participants scored significantly lower than the theoretical mean of 4 on the doomscrolling scale ($t(301) = -27.96$, $p < 0.001$, 95 % CI = [2.26, 2.49], $d = -1.61$). In contrast, participants scored close to the theoretical mean of 4 on the climate change doomscrolling scale, with no significant difference ($t(303) = 0.6$, $p = 0.549$, 95 % CI = [3.94, 4.11], $d = 0.03$).

3.2. RQ2 - individual differences of doomscrolling and climate change related doomscrolling

Linear regression analysis showed no significant difference between male and female participants on the doomscrolling scale ($b = -0.04$, $t(294) = -0.31$, $p = 0.753$, 95 % CI = [−0.29, 0.21]). However, on the climate change doomscrolling scale, females scored significantly higher than males ($b = 0.31$, $t(296) = 3.36$, $p < 0.001$, 95 % CI = [0.13, 0.49]). Despite this significant difference, there was an 80.97 % overlap in scores between genders, as shown in Fig. 3.

ANOVA analyses for both doomscrolling and climate change doomscrolling did not reveal significant between-group differences based on education level (doomscrolling: $F(4, 297) = 0.59$, $p = 0.669$, $\eta^2 = 0.01$; climate change doomscrolling: $F(4, 299) = 0.57$, $p = 0.687$, $\eta^2 = 0.01$).

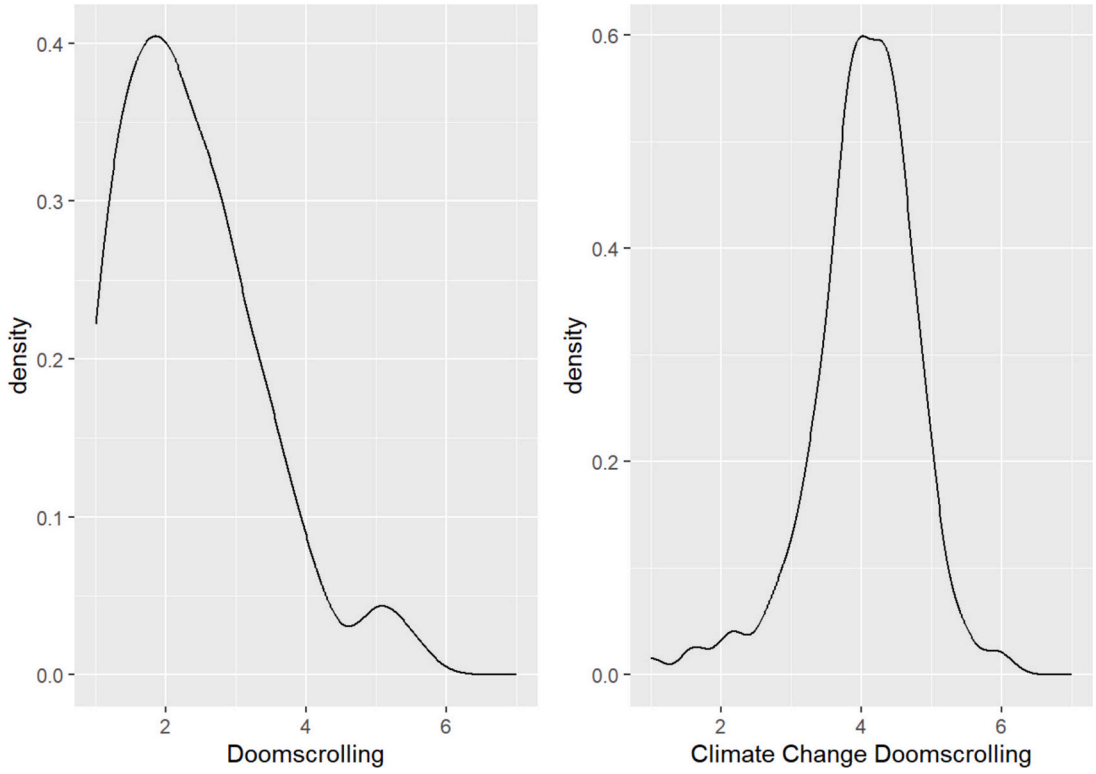

Fig. 2. Distribution of doomscrolling and climate change related doomscrolling scores.

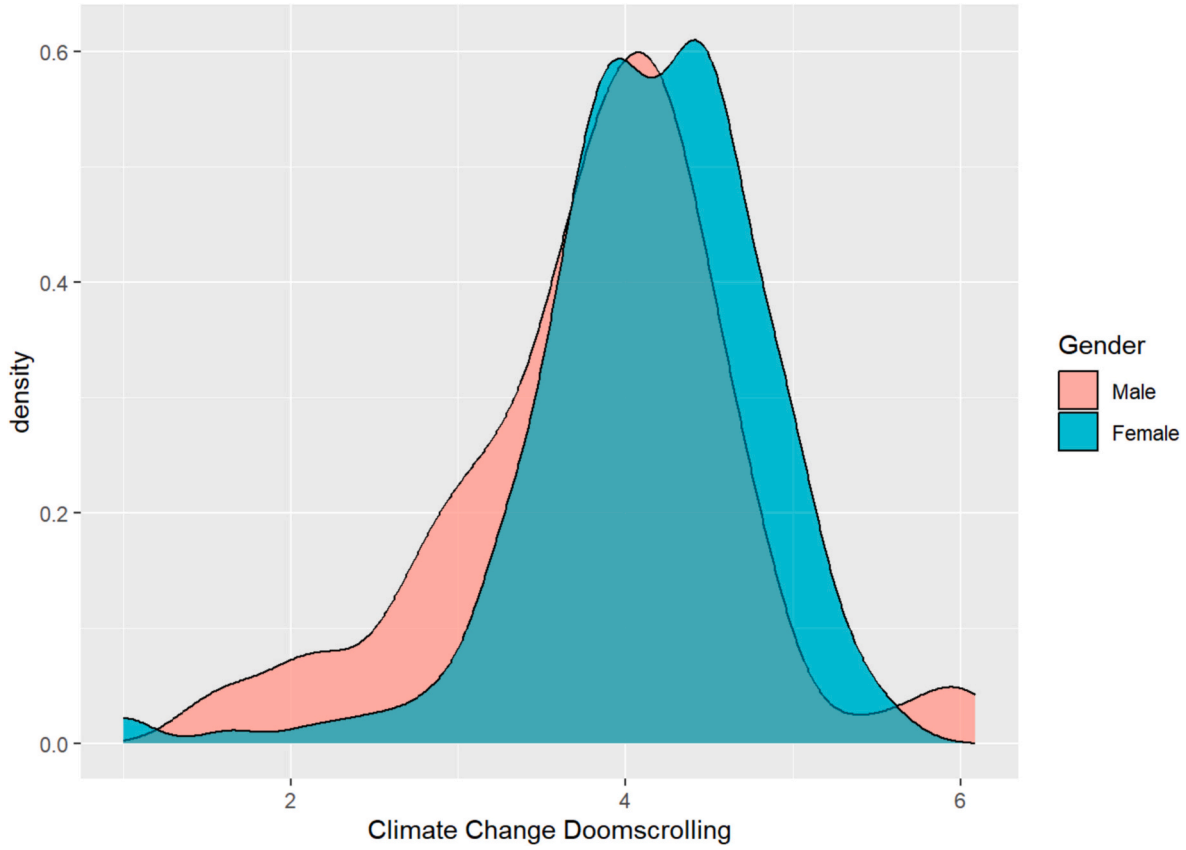

Fig. 3. Overlap between males and females on climate change related doomscrolling.

Furthermore, linear regression analyses showed that age was not a significant predictor for either doomscrolling (b = −0.005, t(300) = −0.67, p = 0.503, 95 % CI = [−0.02, 0.01]) or climate change doomscrolling (b = −0.01, t(302) = −1.19, p = 0.234, 95 % CI = [−0.02, 0.003]) as dependent variables.

3.3. RQ3 - correlation between doomscrolling and climate change related doomscrolling

Pearson correlation analysis revealed a significant positive correlation between doomscrolling and climate change doomscrolling (r = 0.35, $p < 0.001$). A linear regression analysis, with doomscrolling as the independent variable, climate change doomscrolling as the dependent variable, and gender as a moderator, indicated that this relationship is not moderated by self-identified gender (b = −0.02, t(286) = −0.19, p = 0.847, 95 % CI = [−0.18, 0.15]). However, consistent with findings from RQ2, females scored slightly, though not significantly, higher in this interaction model (b = 0.37, t(286) = 1.7, p = 0.091, 95 % CI = [−0.06, 0.79]; see Fig. 4).

3.4. RQ4 - risk factors of doomscrolling and climate change related doomscrolling

Multiple linear regression analyses indicated no significant relationship between participants' BDI scores and doomscrolling (b = −0.01, t(299) = −0.98, p = 0.328, 95 % CI = [−0.02, 0.01]). However, participants' HAM scores were found to significantly predict doomscrolling (b = 0.04, t(299) = 4.2, p < 0.001, 95 % CI = [0.02, 0.06]). When gender was included as a potential moderator for both BDI and HAM, significant main and interaction effects were observed (see Table 2).

Interaction analyses indicated that the relationship between BDI and doomscrolling is negative for males but positive for females. In contrast, the relationship between HAM and doomscrolling is positive for both genders, with a stronger effect observed in males (see Fig. 5).

Table 2
Multiple linear regression results of BDI, HAM and interaction effects of gender on doomscrolling.

Variable	*Estimate*	*t(df = 290)*	*p-value*	*95 % CI*
BDI	*−0.03*	*−2.42*	*0.016* *	*−0.05, −0.01*
HAM	*0.05*	*3.42*	*< 0.001***	*0.02, 0.07*
Gender	*−0.9*	*−2.66*	*< 0.001***	*−1.56, −0.23*
BDI x Gender	*0.04*	*2.51*	*0.013**	*0.01, 0.07*
HAM x Gender	*−0.02*	*−0.84*	*0.403*	*−0.05, 0.02*

* *Note. $p < 0.05$.*
** *$p < 0.001$.*

Unlike with doomscrolling, neither BDI nor HAM scores significantly predicted climate change doomscrolling (BDI: b = −0.01, t(301) = −1.06, p = 0.289, 95 % CI = [−0.02, 0.01]; HAM: b = 0.01, t(301) = 1.93, p = 0.054, 95 % CI = [−0.0002, 0.03]). Additionally, in the interaction model, no significant moderating effects of gender were observed (see Table 3).

Interaction analyses revealed a negative relationship between BDI and climate change doomscrolling for both males and females. Although gender did not significantly moderate the relationship, HAM was positively associated with climate change doomscrolling for females, while the association was not significant for males (see Fig. 6).

3.5. RQ5 - protective factors of doomscrolling and climate change related doomscrolling

Multiple linear regression analyses indicated no significant relationship between participants' F-SoZu scores and doomscrolling (b = −0.001, t(299) = −0.16, p = 0.87, 95 % CI = [−0.01, 0.01]). However,

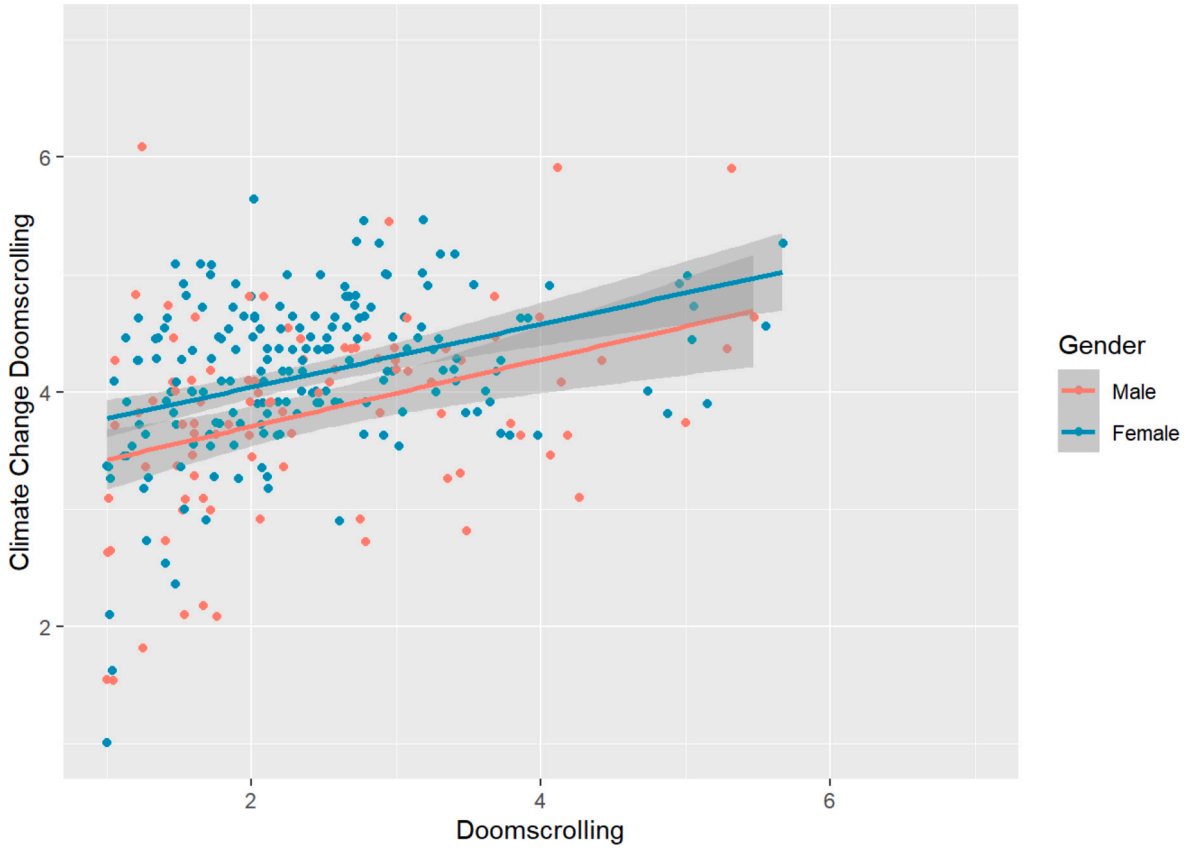

Fig. 4. Scatterplot with doomscrolling and climate change doomscrolling, separated by gender.

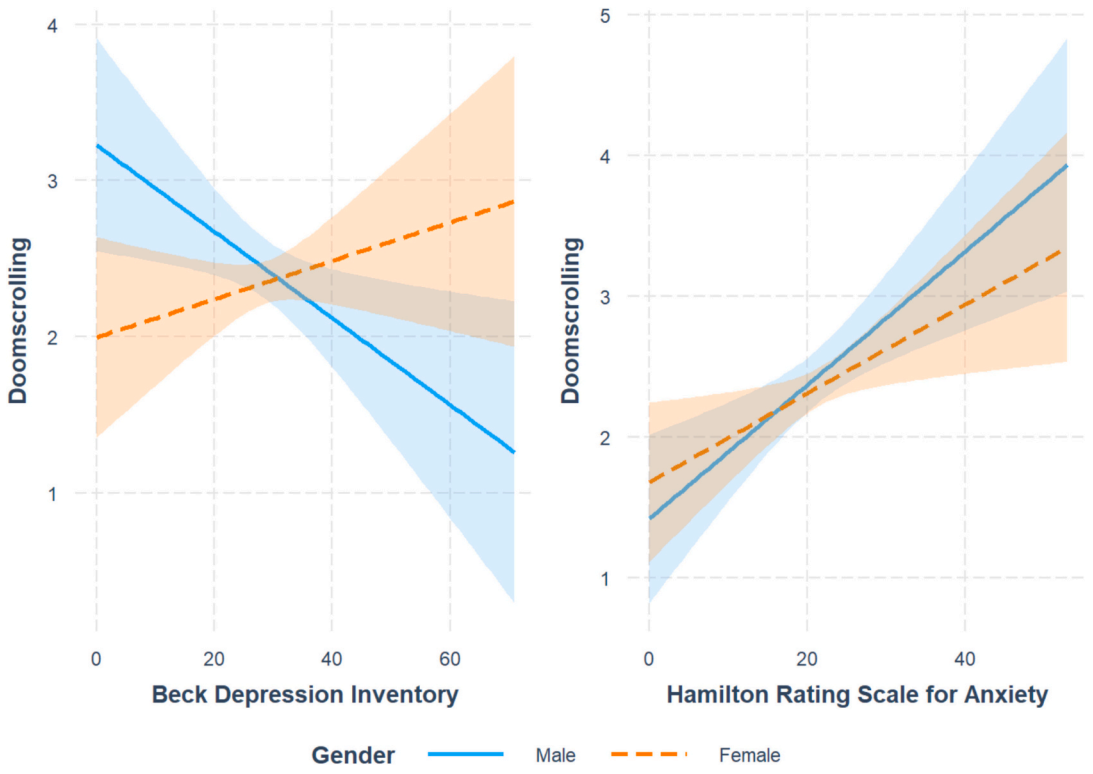

Fig. 5. Interaction plots Beck Depression Inventory (BDI) x Gender and Hamilton Rating Scale for Anxiety (HAM) x Gender with Doomscrolling as dependent variable.

Table 3
Multiple linear regression results of BDI, HAM and interaction effects of Gender on climate change related doomscrolling.

Variable	*Estimate*	*t(df = 292)*	*p-value*	*95 % CI*
BDI	*−0.01*	*−1.45*	*0.148*	*−0.03, 0.004*
HAM	*−0.0002*	*−0.02*	*0.988*	*−0.02, 0.02*
Gender	*−0.51*	*−2.02*	*0.045**	*−0.999, −0.01*
BDI x Gender	*0.01*	*0.73*	*0.465*	*−0.01, 0.03*
HAM x Gender	*0.03*	*1.84*	*0.068*	*−0.002, 0.05*

* *Note. $p < 0.05$.*

participants' CCQ scores significantly predicted doomscrolling (b = −0.01, t(299) = −3.59, $p < 0.001$, 95 % CI = [−0.02, −0.01]). When gender was included as a potential moderator for both F-SoZu and CCQ, no significant main or interaction effects were observed (see Table 4).

Although not statistically significant, interaction analyses showed that the relationship between F-SoZU and doomscrolling is negative for males but positive for females. The relationship between CCQ and doomscrolling is negative for both genders (see Fig. 7).

As with doomscrolling, no significant relationship was found between participants' F-SoZu scores and climate change doomscrolling (b = −0.002, t(301) = −0.51, $p = 0.613$, 95 % CI = [−0.01, 0.01]). However, CCQ scores were found to negatively predict participants' climate change doomscrolling scores (b = −0.008, t(301) = −2.73, $p = 0.007$, 95 % CI = [−0.01, −0.002]). In an interaction model, gender showed both a significant main effect and a significant moderating effect on the relationship between CCQ and climate change doomscrolling (see Table 5).

Interaction analyses indicated that the relationship between CCQ and climate change doomscrolling appears positive for males but negative for females (see Fig. 8).

4. Discussion

4.1. Summary and interpretation of results

This cross-sectional study is among the first to explore the concept of Climate Change Doomscrolling (CCDS). It examines the connection between general doomscrolling (DS) and climate change-specific doomscrolling, as well as the risk and protective factors influencing these behaviors. In line with previous research, the data reveal a moderating effect of gender.

Regarding the severity of DS and CCDS (RQ1), participants in our sample scored an average of 2.37 (SD = 1.01) on the DS scale and 4.02 (SD = 0.76) on the CCDS scale. Our DS findings align with similar studies using convenience samples, where mean scores of 2.10 (SD = 1.16) were observed (Sharma et al., 2022). In comparison, studies on natural disaster victims, such as earthquake survivors, showed slightly higher DS scores, averaging 2.70 (SD = 1.68) (Kartol et al., 2023). Since CCDS is a new measure, no direct comparisons with other studies are available. However, future research could examine CCDS scores in populations affected by climate change-related disasters, given the documented impact on mental health in such contexts (Sharpe & Davison, 2022).

In examining individual characteristics (RQ2), we found no significant differences in DS and CCDS by gender, age, or education level, except that females scored statistically significantly higher in CCDS. This suggests that DS and CCDS may affect the general population similarly, although our findings differ from some previous studies. For instance, Güme (2024) highlighted contradictory findings on gender differences in DS, with some studies (Satici et al., 2023) finding no significant gender effects and others showing that young men are more prone to doomscrolling than older women (Sharma et al., 2022). The higher CCDS scores among women in our sample reflect existing literature suggesting that women are more vulnerable to mental health issues linked to climate change, including PTSD, depression, and eco-anxiety,

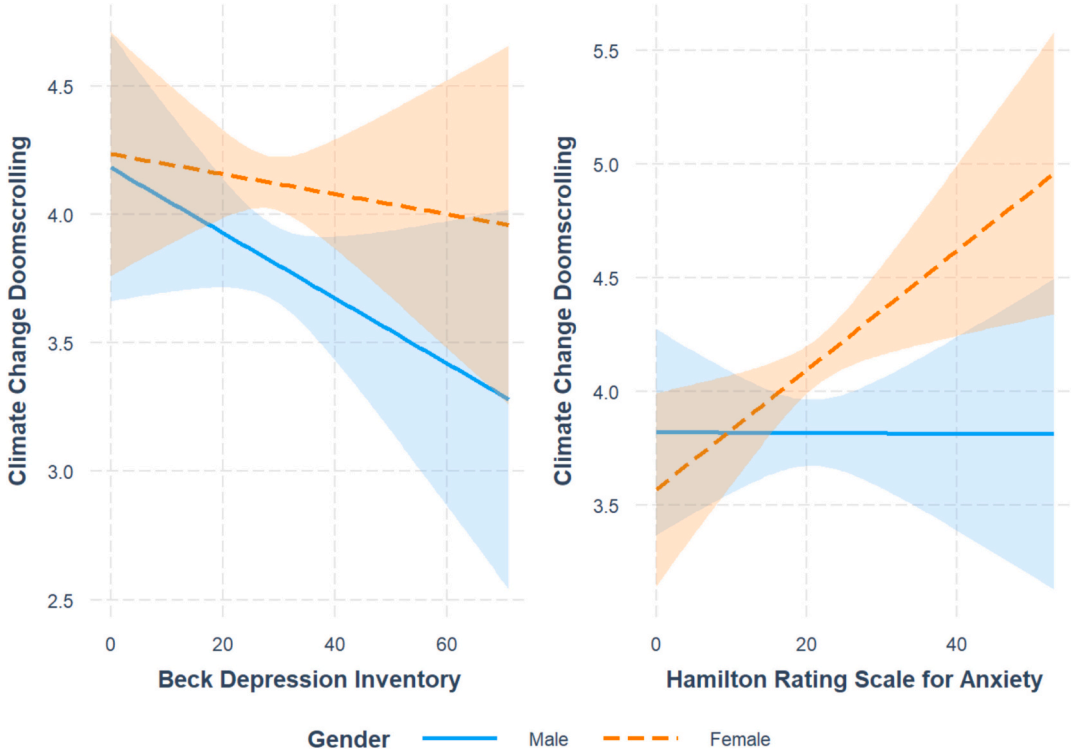

Fig. 6. Interaction plots Beck Depression Inventory (BDI) x Gender and Hamilton Rating Scale for Anxiety (HAM) x Gender with climate change related doomscrolling as dependent variable.

Table 4
Multiple linear regression results of F-Sozu, CCQ and interaction effects of gender on doomscrolling.

Variable	*Estimate*	*t(df = 290)*	*p-value*	*95 % CI*
F-SoZu	*−0.01*	*−0.82*	*0.415*	*−0.03, 0.01*
CCQ	*−0.01*	*−0.78*	*0.435*	*−0.02, 0.01*
Gender	*0.26*	*0.55*	*0.584*	*−0.66, 1.17*
F-SoZu x Gender	*0.01*	*0.92*	*0.36*	*−0.01, 0.04*
CCQ x Gender	*−0.01*	*−1.77*	*0.077*	*−0.03, 0.002*

especially following climate-related catastrophes (Boluda-Verdú et al., 2022; Lowe et al., 2019; Neria & Shultz, 2012; Orengo-Aguayo et al., 2019; Rothschild & Haase, 2022; Stone et al., 2022). Additionally, women may be more affected by climate change news due to greater awareness and concern about the issue (McCright, 2010, as cited in Crane et al., 2022).

Our results also indicate a significant correlation between DS and CCDS (r = 0.36; RQ3), with gender moderating this relationship, as women scored statistically significant higher on both measures. This aligns with previous findings that climate change more adversely affects women's mental health (Boluda-Verdú et al., 2022; Stone et al., 2022). The pervasive presence of climate change news in the media has been shown to impact mental health (Cianconi et al., 2020). Aylward et al. (2024) noted that while media coverage of climate change's mental health impacts is limited, such news could foster action and support programs for affected populations. However, news often emphasizes negative impacts over progress and solutions, as seen in a Canadian study where nearly all articles focused on mental health risks associated with climate change, with less than half mentioning solutions (King et al., 2019).

In terms of risk factors, we found that anxiety significantly predicted DS and CCDS, while depression did not (RQ4). This relationship between DS and anxiety is well-documented and has been identified for inciting doomscrolling and being aggravated by doomscrolling, while also being mediator for the consumption of negative news and a decline in life satisfaction (Kartol et al., 2023, 2025; Salisbury, 2023; Satici et al., 2023; Shabahang et al., 2023; Sharma et al., 2022; Ytre-Arne & Moe, 2021). Interestingly, our findings contrast with previous studies on doomscrolling. While those studies have shown a positive relationship between DS and depression and have deemed depression to be both a predisposition for DS and a factor in DS's negative impact on life satisfaction, our results cannot confirm this conclusion (Kartol et al., 2023, 2025; Price et al., 2022; Satici et al., 2023; Shabahang et al., 2023). This discrepancy suggests that further investigation is needed. Gender differences in coping with DS and CCDS were also observed: female participants with higher depression scores engaged statistically significantly more in DS and CCDS, whereas male participants did not. This reflects in the literature established gender differences in mental health, where internalizing disorders such as mood disorders are more common among women. At the same time, men are more prone to externalizing disorders (Boyd et al., 2015). These results should be interpreted with caution, as our sample presented low anxiety and depression scores, potentially influencing the non-significant correlation between depression and DS.

Finally, we examined whether protective factors, such as social support and coping competence, could reduce DS and CCDS (RQ5). While social support showed no effect on DS or CCDS, coping competence had a small protective effect. Although positive social interactions with family and friends are known to reduce anxiety and increase feelings of security (Harandi et al., 2017), our findings suggest that DS and CCDS may be more individualistic experiences, often not shared with others. In contrast, adaptive coping styles, such as positive thinking and active stress management, could help reduce DS and CCDS. During the COVID-19 pandemic, these coping strategies were shown to be effective in mitigating stress, anxiety, and insomnia (Budimir et al., 2021). Effective strategies to counter doomscrolling may include managing time spent online, limiting exposure to distressing news, and balancing negative content with positive information (Güme, 2024).

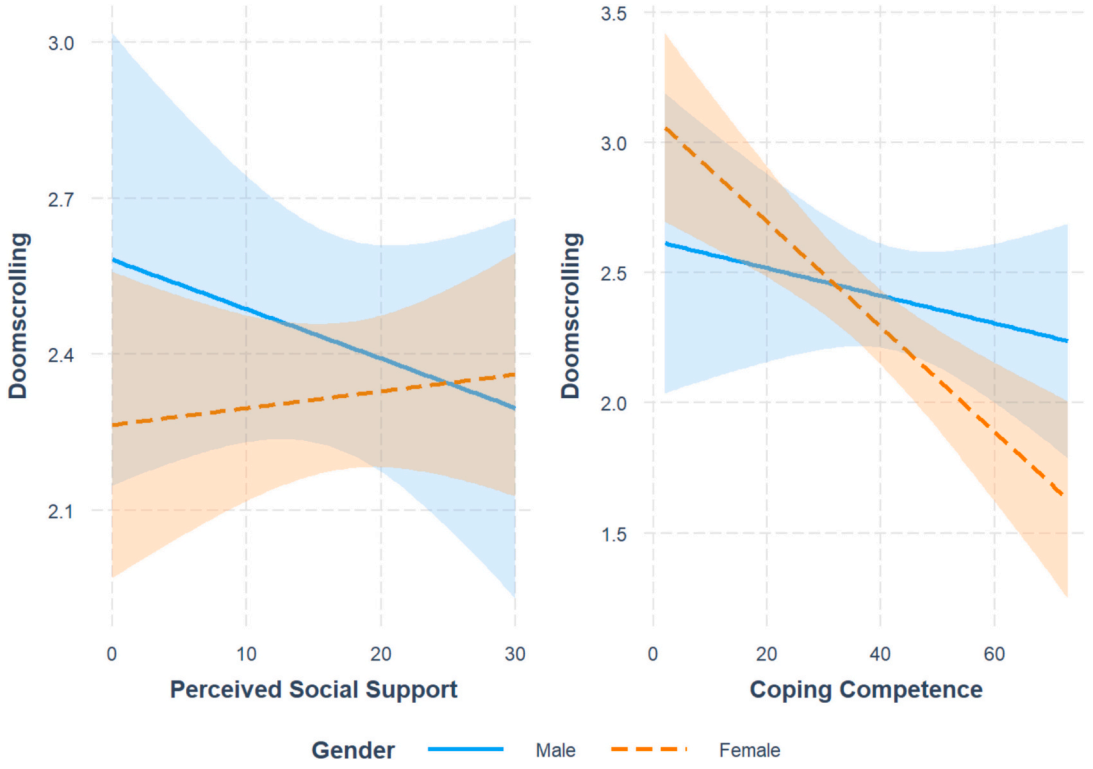

Fig. 7. Interaction plots Perceived Social Support (F-SoZu) x Gender and Coping Competence (CCQ) x Gender with doomscrolling as dependent variable.

Table 5
Multiple linear regression results of F-SoZu, CCQ and interaction effects of gender on climate change related doomscrolling.

Variable	*Estimate*	*t(df = 292)*	*p-value*	*95 % CI*
F-SoZu	*−0.009*	*−0.95*	*0.343*	*−0.03, 0.01*
CCQ	*0.005*	*1.07*	*0.286*	*−0.004, 0.02*
Gender	*0.87*	*2.51*	*0.013**	*0.19, 1.55*
F-SoZu x Gender	*0.01*	*0.74*	*0.461*	*−0.01, 0.03*
CCQ x Gender	*−0.02*	*−2.85*	*0.005 ***	*−0.03, −0.01*

* *Note.* $p < 0.05$.
** $p < 0.01$.

4.2. Limitations

This study has several limitations that should be taken into account. First, although conducted in the Netherlands and Germany, the questionnaires were available only in English, limiting participation to individuals comfortable with reading and responding in English. While residents of the Netherlands and Germany are generally proficient in English (Buchholz, 2024), offering the survey in multiple languages would allow for a more diverse sample and potentially more representative results. This further could have affected the reliability of the results, as participants therefore "translated" the questions and answer options in their head back to their native language. In doing so, certain nuances might have gotten lost in translation, and questions might have been interpreted in more diverse ways than intended.

Additionally, as this is an exploratory study, the Climate Change Doomscrolling Scale (CCDS) has not yet been validated. Although it demonstrated an acceptable reliability ($\alpha = 0.65$), there is a need for further refinement to enhance both its reliability and validity. While the moderate correlation between DS and CCDS suggests a promising structural foundation, future studies should prioritize scale translation and validation across diverse linguistic and cultural contexts.

Another limitation is that our sample primarily consisted of young, highly educated individuals. This is particularly significant from a media psychology perspective, as education level has been linked to mental health outcomes (Kondirolli & Sunder, 2022) and critical engagement with media content. Less educated individuals may process climate change news differently, with potential differences in susceptibility to doomscrolling and its psychological consequences. Expanding the sample to include a broader range of educational backgrounds could provide insights into how education level influences doomscrolling behaviors.

Finally, this study did not explore personality traits, which may play an important role in understanding doomscrolling behaviors. For instance, Sharma et al. (2022) found that doomscrolling has a moderate positive correlation with anxiety and smaller positive correlations with neuroticism, sensation-seeking, negativity bias, and political interest. Given that media consumption habits are strongly tied to psychological traits, future research should investigate how dispositional factors influence engagement with climate change-related news. This would provide a more comprehensive understanding of not just the mental health impacts of doomscrolling but also its behavioral antecedents, such as compulsive checking, emotional reactivity, and information-seeking tendencies.

4.3. Strengths

To the best of our knowledge, this study is among the first to examine the impact of climate change news in relation to doomscrolling, and we developed a tailored scale specifically to measure doomscrolling behavior in this context. While this questionnaire requires further validation, its moderate correlation with the validated DS scale (Sharma et al., 2022) suggests that general doomscrolling (DS) and climate change doomscrolling (CCDS) may represent distinct behaviors. This distinction is crucial, as it highlights the intersection between media effects research, environmental communication, and media psychology, emphasizing the behavioral rather than merely cognitive consequences of climate news exposure. Once validated, the CCDS could be translated into multiple languages and used in cross-national research.A key

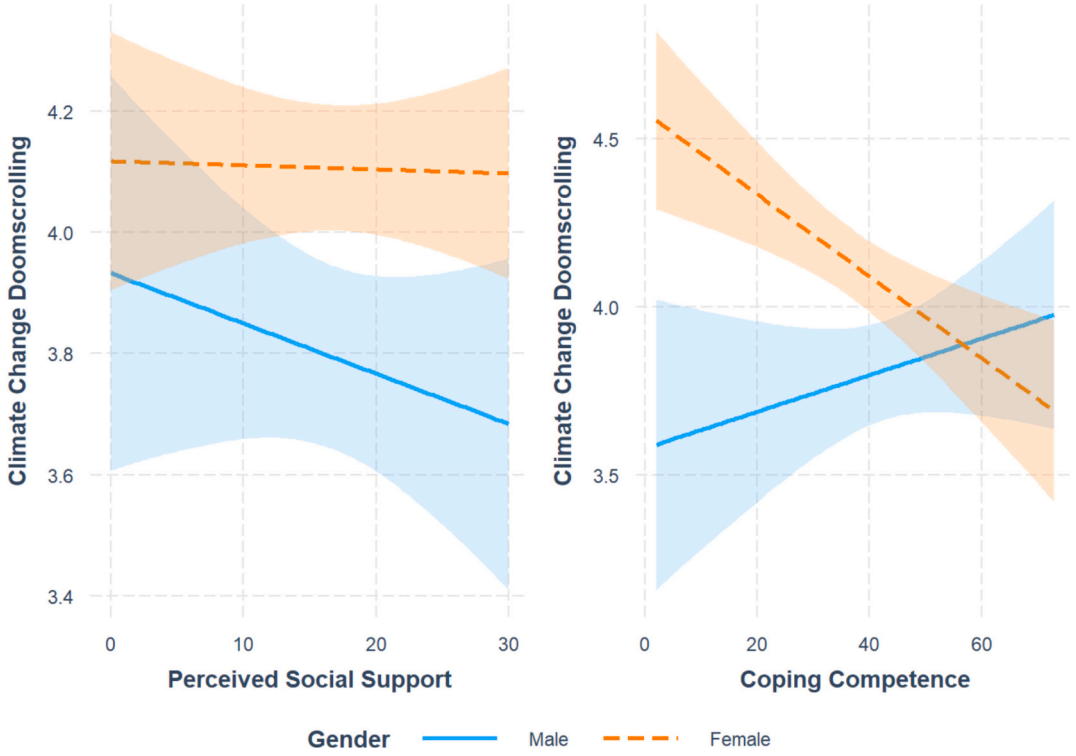

Fig. 8. Interaction plots Perceived Social Support (F-SoZu) x Gender and Coping Competence (CCQ) x Gender with climate change related doomscrolling as dependent variable.

strength of this study is the relatively balanced sample of men and women, primarily from Western Europe but with some diversity in national backgrounds. This is particularly relevant given that prior research indicates women are disproportionately affected by the mental health impacts of climate change, a pattern replicated in our findings. Future research would benefit from maintaining gender-balanced samples to rigorously assess the effects of doomscrolling and climate change doomscrolling on mental health. Another strength of our study lies in the integration of behavioral perspectives into media psychology. Unlike previous research that has primarily focused on the emotional and cognitive effects of negative news exposure, our study considers how individuals act in response to climate change news. Understanding doomscrolling not only as a psychological reaction but as a behavioral pattern offers new avenues for intervention, such as promoting digital self-regulation strategies and fostering more constructive engagement with climate-related media content.

4.4. Implications

This study has significant practical implications, particularly given the pervasive presence of climate change news in modern media streams. Understanding the impact of such news on mental health, through the lenses of doomscrolling (DS) and climate change doomscrolling (CCDS), is essential, as the specific mental health effects of these behaviors remain underexplored.

Our findings indicate that climate change news consumption affects mental health, with anxiety predicting increased engagement with climate change information, while depression did not show a similar effect. Notably, women with high depression scores were more likely to engage with climate change news than men, suggesting a potential need for mental health interventions tailored to address climate anxiety and incorporate gender-specific approaches. This aligns with media psychology literature, which suggests that emotional engagement with media is not only gendered but also influenced by personality traits and pre-existing mental health conditions (Costa Jr et al., 2001). I. This may be due to self-stereotyping and prevailing stereotypes that reflect women as being generally more emotional in various contexts (e.g., when receiving care for pain or being a caregiver; Samulowitz et al., 2018). Even though gender may play a role in the prevalence of anxiety-related disorders, scarce attention has been given to gender-specific interventions (Bekker & van Mens-Verhulst, 2007) and some evidence points towards gender being a moderating factor in the effectiveness of interventions (Corrick et al., 2024; Wade et al., 2016). Based on the present data and given that social media algorithms use and or abuse the knowledge over their users, a targeted information campaign via the news channels people consume could prove to be effective.

From a media studies perspective, the prominence of negative news is a critical factor in understanding the psychological impact of DS and CCDS. Media often prioritizes negative news for its higher engagement potential, a phenomenon well-documented in media studies (Soroka, 2014). This emphasis on negative content can distort public perception, fostering a sense of fear and helplessness among consumers (Vasterman, 2005). Continuous exposure to such content may heighten stress and anxiety, creating a cycle of consumption and psychological distress (Garrett, 2009). However, little attention has been paid to the behavioral responses this generates - whether individuals become more politically engaged, seek out coping strategies, or disengage entirely from news consumption. Future research should investigate the extent to which doomscrolling drives action (e.g., climate activism, social engagement) or, conversely, fosters learned helplessness. (Newman et al., 2023).

The practical implications of our study extend to developing interventions aimed at mitigating the adverse effects of DS and CCDS. A deeper understanding of these behaviors can inform the design of resources and strategies to support healthier news consumption. Such interventions might include promoting digital literacy, encouraging balanced media habits, and providing psychological support for those most affected by relentless negative news streams. Additionally, addressing news avoidance or disconnection by equipping individuals with strategies to engage with news in a controlled, less distressing

manner could help them stay informed without compromising mental health (Moe & Madsen, 2021; Skovsgaard & Andersen, 2020). These measures could enhance mental health resilience under sustained exposure to distressing climate change and other news content.

4.5. Future directions

Future research should expand the study of doomscrolling across diverse countries. To date, most doomscrolling research has been conducted in Turkey (e.g., Güme, 2024; Kartol et al., 2023; Satici et al., 2023; Sharma et al., 2022; Taskin et al., 2024) and Anglophone countries (e.g., Kaya & Griffiths, 2024; Price et al., 2022; Ytre-Arne & Moe, 2021). Expanding research into other regions where little or no data exists will allow for broader cross-cultural comparisons and a deeper understanding of the phenomenon.

Additionally, more research is needed on climate change news across various media formats beyond social media, such as radio, television, and print newspapers. Podcasts, which are gaining popularity, especially among younger demographics, also present an interesting area for further study, as they often focus on specific topics (Newman et al., 2023). Crucially, future studies should consider the role of different media affordances in shaping behavioral responses to climate news. For instance, does the audiovisual nature of television elicit stronger emotional reactions compared to text-based news? Does long-form content like podcasts encourage more critical engagement, or does it reinforce doomscrolling patterns? Investigating these questions will bridge the gap between media psychology, communication science, and behavioral research, offering a more holistic understanding of how individuals engage with climate news.

5. Conclusion

This study is among the first to examine the impact of climate change news doomscrolling. The findings reveal a moderate correlation between general doomscrolling (DS) and climate change-related doomscrolling (CCDS) and indicate that women are more affected by CCDS than men. Additionally, social support did not emerge as a protective factor against DS and CCDS; however, a small effect was observed for coping strategies, suggesting that interventions to enhance coping skills may be beneficial. Given that climate change is likely to remain a prominent topic in news media for the foreseeable future, promoting effective coping strategies could help mitigate the potential mental health impacts of climate-related doomscrolling.

CRediT authorship contribution statement

Alejandro Dominguez-Rodriguez: Writing – review & editing, Writing – original draft, Supervision, Project administration, Methodology, Investigation, Data curation, Conceptualization. **Frederic Apprich:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Data curation, Conceptualization. **Maximilian A. Friehs:** Writing – review & editing, Writing – original draft, Investigation, Conceptualization. **Shenja van der Graaf:** Writing – review & editing, Writing – original draft, Supervision, Project administration, Conceptualization. **Johannes Steinrücke:** Writing – review & editing, Writing – original draft, Visualization, Formal analysis, Data curation.

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Declaration of competing interest

The authors have no conflicts of interest to report.

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Data availability

all data can be accessed via https://osf.io/c7fm8

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