Project title

Patterns of climate change worry in adolescents with depression: A nationally representative Norwegian survey

Supervisors

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Beate Seibt, Professor, Department of Psychology, University of Oslo (co-supervisor)
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Preferred background of candidate

Students in psychology, special needs education, public health, behavioural sciences, environmental studies, or data science. Some familiarity with quantitative methods is helpful but not required.

Number of available projects

1-2 (students may work together)

Preferred project period

May-Sept 2025 (flexible, including part-time)

Background

Climate change poses significant threats to health and wellbeing worldwide. The IPCC's Sixth Assessment Report documents accelerating physical hazards – including heatwaves, wildfires, storms, and floods – and highlights the growing psychological implications of these changes [1]. Young people appear particularly concerned about its impacts. A large 10-country survey of 16-25-year-olds found that 84% were at least moderately worried about climate change and nearly half reported that this worry affected daily functioning [2]. In Europe, public concern is also high, with 93% of respondents in a recent Eurobarometer survey stating that climate change is a serious problem.

Existing research shows that climate-change worry is not evenly distributed across the population. Higher worry is consistently observed among females, adolescents, and those with higher educational aspirations [3,4]. Climate worry also aligns with mental-health profiles: internalising symptoms (e.g., anxiety and depression) tend to co-occur with greater worry, whereas externalising tendencies (e.g., rule-breaking or antisocial behaviours) predict reduced or absent worry [5,6]. These patterns suggest that climate worry is shaped not only by environmental awareness but by underlying psychological and social factors.

Despite these advances, important gaps remain. No study has examined how climate-change worry is patterned specifically among adolescents meeting criteria for clinically significant depression, even though depression is one of the most common and impairing disorders in adolescence (~18% prevalence in Norwegian adolescents [7]). Depressed adolescents may exhibit heightened worry due to rumination and threat sensitivity, or attenuated worry due to emotional numbing or disengagement. Understanding these patterns is essential for identifying vulnerable subgroups, tailoring mental-health and educational interventions, and informing climate-communication strategies for young people with current mental health problems.

By situating adolescent mental health within the context of climate change as an environmental stressor, this project directly addresses the **UiO:Energy and Environment** call's emphasis on interdisciplinary research linking climate, environment, and societal outcomes.

Aims

The project aims to **(1)** characterise levels of climate-change worry among adolescents who meet criteria for depression based on the validated Hopkins Symptom Checklist (HSCL mean ≥3); **(2)** examine how social, demographic, and behavioural characteristics – such as gender, socioeconomic status, social-media use, and social engagement – distinguish adolescents with low, moderate, and high levels of worry; **(3)** identify which characteristics differentiate depressed adolescents who report no climate worry from those who report any level of concern; and **(4)** test whether these associations vary by gender, socioeconomic status, urbanicity, and perceived social-media pressure.

Data, feasibility, and student training

Ungdata 2022 is a nationally representative survey of Norwegian adolescents aged 13–19 years (n≈110,000) [6]. It includes validated measures of depressive symptoms, antisocial behaviour, social engagement, digital media use, physical activity, and climate-change worry. The dataset has already been cleaned and processed using best-practice methods – including inverse probability weighting and multiple imputation – as part of previous supervised research. This makes the project highly feasible within a summer-research timeframe and well suited to bachelor-level students. Students will receive structured **training** in quantitative data analysis (R, Stata, or SPSS). Students will conduct descriptive analyses, regression modelling, and visualisation under supervision. Weekly **supervision** meetings will focus on research design, interpretation of results, and scientific writing.

Analytical approach

The project will begin with descriptive statistics to determine how climate-change worry is distributed within the depressed subsample (n≈20,000). Multinomial logistic regression will be used to examine how sociodemographic and psychosocial variables predict membership in different worry categories. Logistic regression will compare adolescents reporting no worry with those reporting any worry, focusing on correlates of disengagement. Moderation analyses will test whether gender, socioeconomic status, or social-media pressure modify these associations. Sensitivity analyses will assess robustness to alternative depression thresholds and model specifications. All analyses will be conducted by the student(s) with guidance, ensuring active learning and methodological skill development.

Expected outcomes

This project will generate the first national evidence on climate-change worry among adolescents with clinically relevant depression. The findings will clarify how environmental concern is distributed within a psychologically vulnerable group and identify social and behavioural factors associated with heightened worry or disengagement. From an energy and environment perspective, the project contributes to understanding how young people psychologically respond to climate change as an environmental stressor, which is essential for designing effective climate communication, adaptation strategies, and inclusive sustainability policies. The results will be relevant to mental-health practitioners, educators, and policymakers seeking to support youth engagement with climate change without exacerbating mental-health problems. For students, the project offers hands-on training in interdisciplinary climate-health research, strengthening capacity building within UiO:Energy and Environment. **Key outputs** are expected to include a student-led research report and a manuscript prepared for submission to a peer-reviewed journal, with students as lead or co-authors.

References

1 IPCC. Climate Change 2022: Impacts, Adaptation and Vulnerability. Working Group II contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. 2022.

2 Hickman C, Marks E, Pihkala P, *et al*. Climate anxiety in children and young people and their beliefs about government responses to climate change: a global survey. *The Lancet Planetary Health*. 2021;5:e863–73. doi: 10.1016/S2542-5196(21)00278-3

3 Ojala M, Cunsolo A, Ogunbode CA, *et al*. Anxiety, Worry, and Grief in a Time of Environmental and Climate Crisis: A Narrative Review. *Annual Review of Environment and Resources*. 2021;46:35–58. doi: 10.1146/annurev-environ-012220-022716

4 Whitmarsh L, Player L, Jiongco A, *et al*. Climate anxiety: What predicts it and how is it related to climate action? *Journal of Environmental Psychology*. 2022;83:101866. doi: 10.1016/j.jenvp.2022.101866

5 Vergunst F, Prentice CM, Orri M, *et al*. Association of youth climate change worry with present and past mental health symptoms: a longitudinal population-based study. *Climatic Change*. 2024;177:153. doi: 10.1007/s10584-024-03807-1

6 Meneveau M, Galera C, Vergunst F. High and Absent Climate Change Worry Are Associated With Distinct Mental Health Risks in a Nationally Representative Sample of Norwegian Adolescents. Published Online First: (preprint). https://ssrn.com/abstract=5473022

7 Jahre H, Grotle M, Smedbråten K, *et al*. Pain and depressive symptoms among adolescents: prevalence and associations with achievement pressure and coping in the Norwegian Ungdata study. *BMC Public Health*. 2024;24:3054. doi: 10.1186/s12889-024-20566-x