EUROPAREGION EUREGIO
Tirol Südtirol Trentino
Tirolo Alto Adige Trentino

TRENTINO

2026

EUBIRECO

Euregio Biodiversity Research Conference
Tyrol - South Tyrol - Trentino

Dr. Marco Lezcano, Dr. Anna Laura Vlad, Prof. Daniela Raccanello & Prof. Michele Scandola

The role of social research in the planning and implementation of environmental studies

UNIVERSITÀ DEGLI STUDI DI VERONA

MUSE

FONDAZIONE EDMUND MACH
dal 1874

Natural and social science collaborations

Challenges:

- Different languages & research cultures;
- Theory-practice gap;
- Social science integrated too late or superficially.

Why social science matters in biodiversity research

- **Understand people:** values, attitudes, behaviours & perceptions;
- **Improve acceptance:** increase support for measures;
- **Engage stakeholders:** build trust and stronger relationships;
- **Bridge science & practice:** translate ecological knowledge into actionable solutions.

Gruenewald et al. (2025). Overcoming gaps and barriers to effectively integrate social science in European conservation

Environmental psychology

The study of the impact of the physical environment on individuals and the reciprocal effects of individuals on their physical surroundings.

An example

Climate change affects physical and mental integrity in various ways (Berry et al., 2010):

- Trauma resulting from natural disasters;
- Impairment of psychological well-being.

Emotional responses to climate change

Eco-guilt: feelings of personal responsibility associated with one's own or others' contribution to environmental degradation;

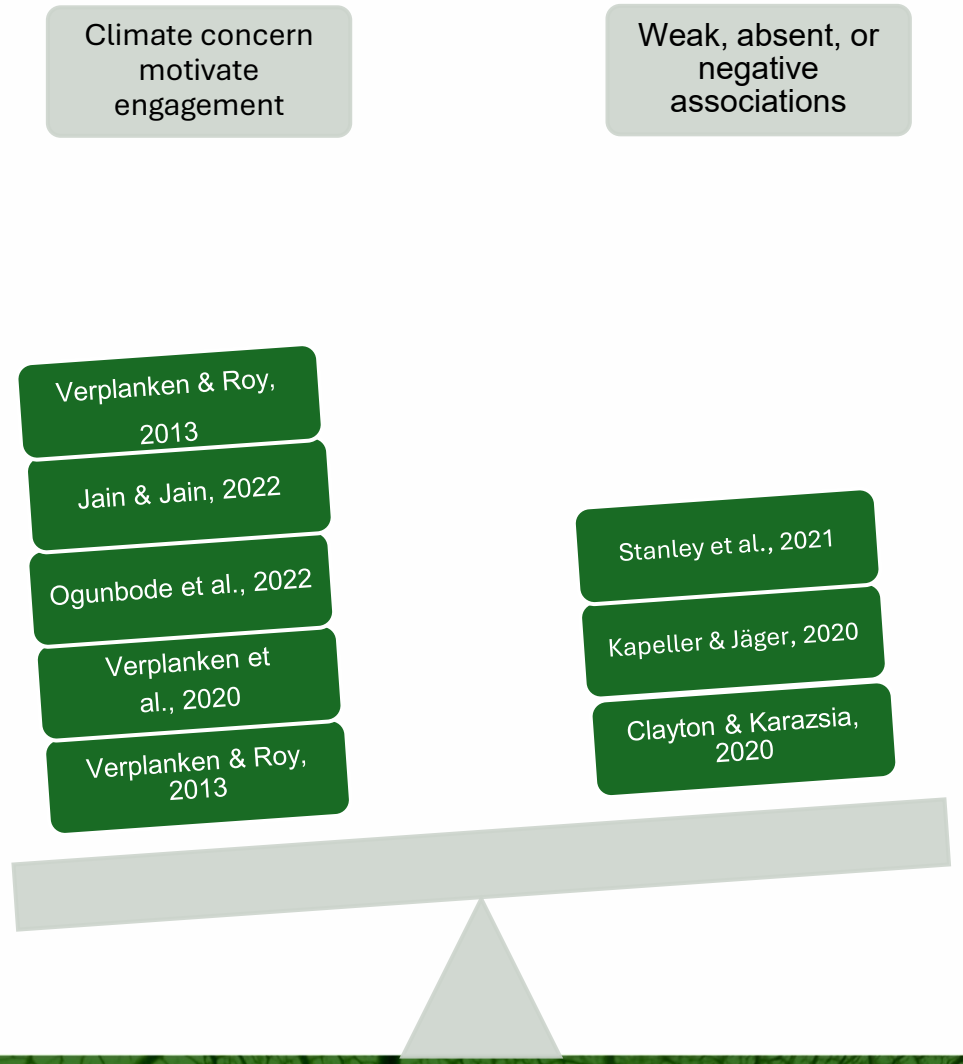
Eco-grief: feelings of loss and sadness related to ecological deterioration;

Eco-anxiety: habitual ecological worry and the negative emotional, physical, and interpersonal consequences.

Behavioral responses to climate change

Pro-environmental behaviours: everyday actions intended to reduce environmental impact or contribute to environmental protection.

Is there a link between eco-emotions and pro-environmental behaviours?



The citizen science project

Formulation of hypotheses (What do we want to test/verify or falsify?)

Selection of research method (Which tools should be used? How should the data be collected? Which population should be studied?)

Data collection (Active/Passive? Individual/Group?)

Data analysis (Which software should be used? How should the different variables be handled?)

Results (How should the results be summarized? Are our hypotheses confirmed?)

Discussion of the results (What we expected vs. what we found; what do the results tell us about the state of the investigated phenomenon?)

Scientific dissemination (Conferences, Newspaper articles, Scientific papers…)

Research question

How do adolescents and adults differ in their eco-emotions and engagement in pro-environmental behaviours, and how are these emotions associated with behaviours within each age group?

Methods

- 12 students of Liceo Scientifico “G. B. Quadri”, training programme;
- **8 two-hour sessions**, for a total of 16 hours;
- 4 sessions were conducted **in person**, while 4 were attended **online**;
- **Interactive and participatory structure:** theoretical lessons with group discussions, exercises, and collaborative research activities.

Methods – training program

- Theoretical background: eco-emotions and the neural mechanisms involved;
- Open-science practices;
- Ethics in psychological research;
- The distinction between psychological constructs and observable variables;
- Experimental, quasi-experimental, correlational, cross-sectional, and longitudinal research designs;
- The formulation of clear, relevant, empirically testable, and feasible research questions;
- The structure and development of psychological questionnaires;
- Practical recommendations for data collection.

Data collection – participants characteristics

Adolescents (N = 178)

Mean age: 17.49 years (SD = 0.93).

Gender: 122 female, 54 male, 2 other.

Recruited at Liceo Scientifico “G. B. Quadri”.

Paper-based questionnaire.

Adults (N = 90)

Mean age: 47.12 years (SD = 7.84).

Gender: 59 females, 31 males.

Convenience sampling through citizen scientists’ personal networks (parents, teachers, family friends).

Online questionnaire.

Results – Nature exposure

Adults reported being more exposed to natural elements at home than teenagers (M_{Adults} = 3.87 vs $M_{Teenagers}$ = 3.03; t_{Welch} (134.93) = -4.28, *p-value* < .001).

An opposite result was found for the exposure at working/studying place (M_{Adults} = 3.02 vs $M_{Teenagers}$ = 4.31; t_{Welch} (159.55) = 6.33, *p-value* < .001).

Results – Eco-anxiety

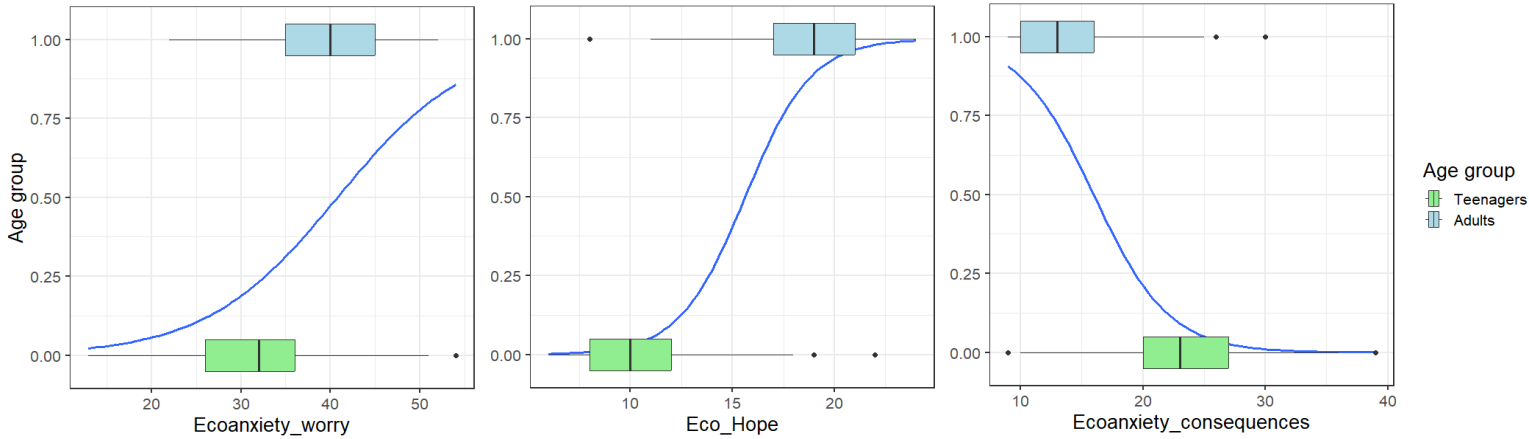
- **Adults reported greater ecological worry;**

- **Adolescents reported greater negative consequences of eco-anxiety;**

- No significant age-group differences were detected in **eco-guilt** or **ecological grief**.

Variable	Likelihood-ratio (χ^2)	df	p-value	Estimate	95% CI
Ecoanxiety_worry	5.006	1	0.025*	0.435	[0.054, 0.816]
Ecoanxiety_consequences	30.447	1	<.001*	−0.929	[−1.296, −0.585]
Eco_Hope	13.693	1	<.001*	0.664	[0.311, 1.015]

* $p < .05$

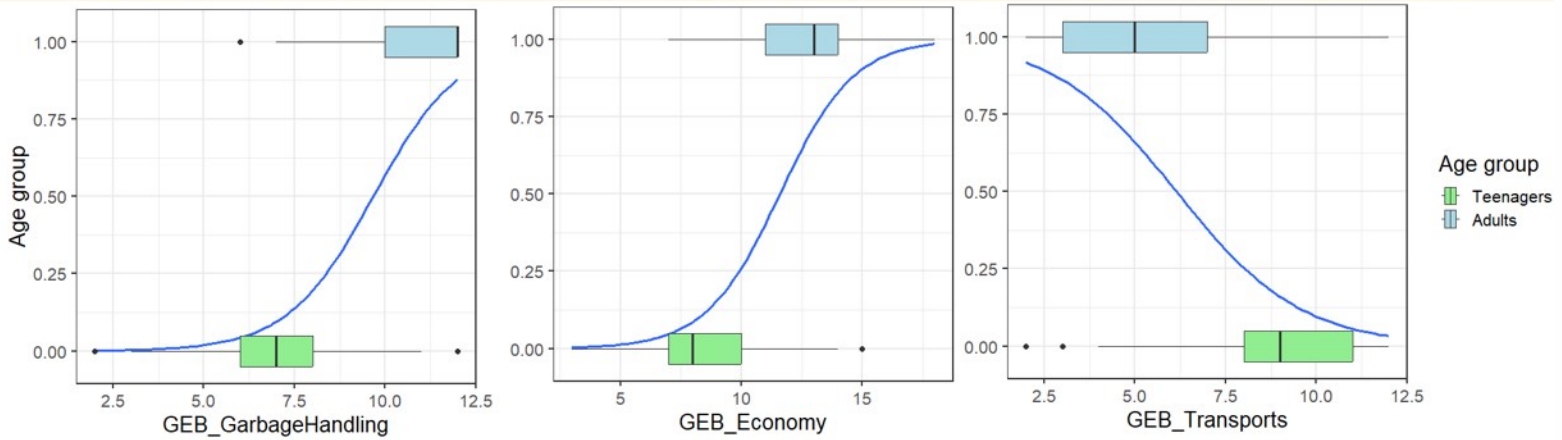


Results – Pro-environmental behaviors

- Higher **garbage handling** and **economic savings** scores were associated with belonging to the adult group;
- Higher **pro-environmental transport** scores were associated with belonging to the adolescent group.

Variable	Likelihood-ratio (χ^2)	df	p-value	Estimate	95% CI
GEB_GarbageHandling	11.100	1	0.001*	0.503	[0.201, 0.827]
GEB_Economy	9.997	1	0.002*	0.426	[0.161, 0.695]
GEB_Transports	7.398	1	0.007*	−0.344	[−0.601, −0.095]

* $p < .05$

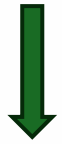


Take-home message

Eco-anxiety showed distinct age-group profiles: adults reported greater ecological worry, while adolescents reported greater negative consequences.

Environmental behaviours differed by domain: adults scored higher on garbage handling and economic savings; adolescents scored higher on eco-activism and sustainable transport.

Citizen science engaged students across the research process, from developing research questions and questionnaire items to recruitment, data collection, and dissemination.



Connection point between natural and social sciences

Special thanks to the research team

Michele Scandola, Associate Professor, University of Verona



Anna Laura Vlad, PhD candidate, University of Verona



Special thanks to **Liceo Scientifico G.B. Quadri** and to **Professor Ida Marina Adami** and **Professor Alessandro Mannoni**, who supported and contributed to this project.

Questions

Contact: marco.lezcano@univr.it

Preregistration: https://osf.io/y459t/overview

EUROPAREGION EUREGIO
Tirol Südtirol Trentino
Tirolo Alto Adige Trentino

TRENTINO

2026 EUBIRECO

Euregio Biodiversity Research Conference
Tyrol - South Tyrol - Trentino

5 - 6 November 2026
MUSE - Science Museum, Trento, Italy

As part of the MUSE programme

Biodiversity

Organised by

MUSE

FONDAZIONE EDMUND MACH dal 1874

With the patronage of

PROVINCIA AUTONOMA DI TRENTO

Scientific Committee

MUSE

FONDAZIONE EDMUND MACH dal 1874

fondazione museo civico di rovereto

NATURMUSEUM SÜDTIROL
MUSEO SCIENZE NATURALI ALTO ADIGE
MUSEUM NATÔRA SÜDTIROL
BIODIVERSITY CENTER

eurac research

universität innsbruck

In collaboration with EUSALP Action Groups

RESOURCES

ECOLOGICAL CONNECTIVITY

Thanks to

coop Trentino-Südtirol