



# **THE WORKPLACE AS A MEANS TO SPREAD ENVIRONMENTAL SUSTAINABILITY**

**Or how environmental policies, social norms and environmental culture of  
sustainability interact**

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10/07/2023

Workshop on Behavioural Ecological Economics

University of Florence







# OUTLINE

1. Background
2. Research Question
3. Literature review
4. Methodology 1 – Qualitative step
5. Methodology 2 – Quantitative step
6. Methodology 3 – Content analysis
7. Summary of results
8. Limitations and further research
9. Conclusions and final remarks



# BACKGROUND



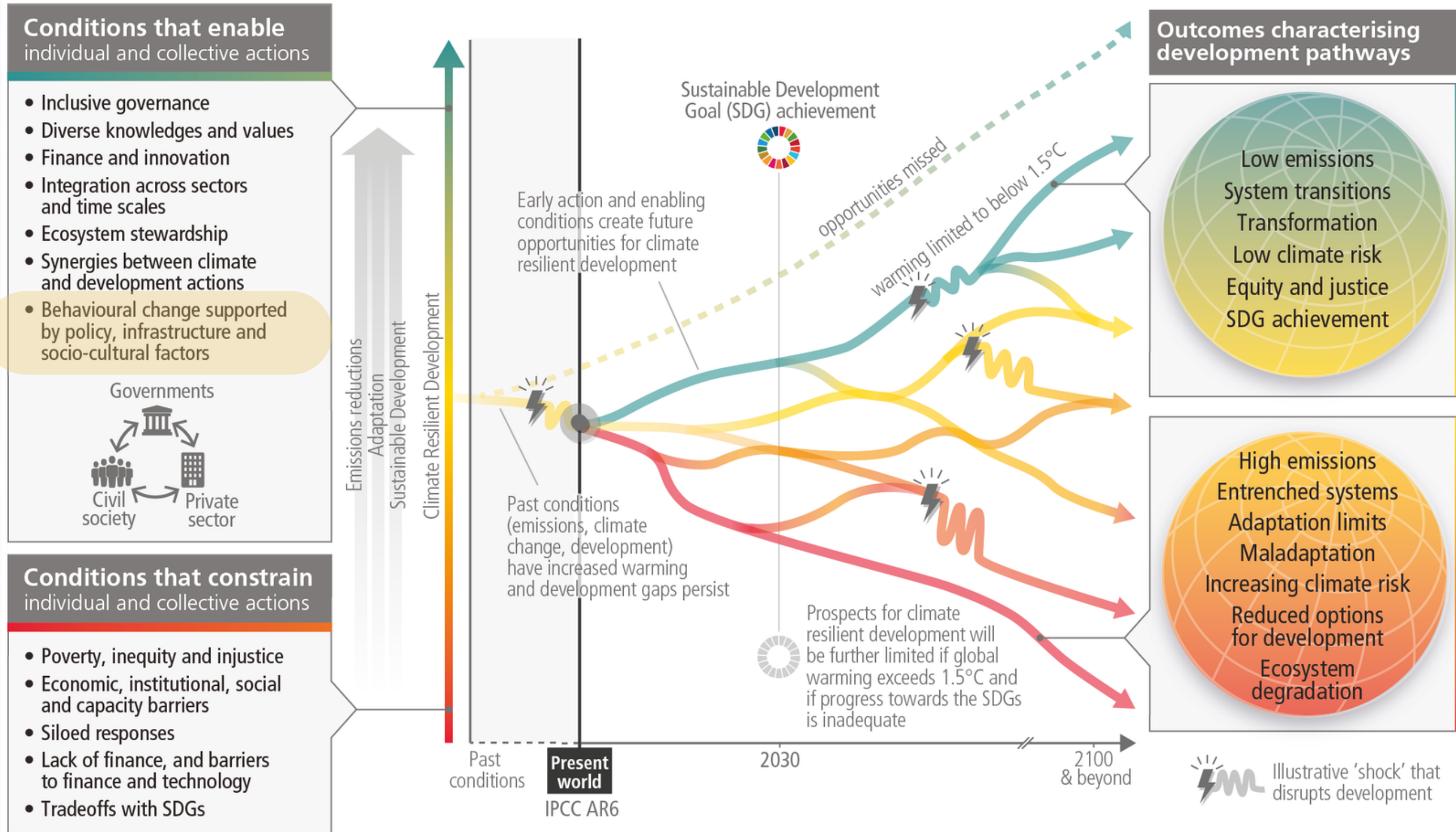
Prestige oil spill, Spain (2002)

- Unsustainable production and consumption;
- Environmental protection in the toplist of political agendas;
- Environmental goals impossible to achieve at this pace.



# There is a rapidly narrowing window of opportunity to enable climate resilient development

Multiple interacting choices and actions can shift development pathways towards sustainability



Source: Report on Climate Change by Intergovernmental Panel on Climate Change (IPCC, 2023)





"Behavioural change supported by policy, infrastructure  
and socio-cultural factors

**Change of mindset through the workplace**

- commitment in time
- constant changing environment due to innovation
- adults' education

**Is a green workplace able to influence personal  
environmental culture and identity?**

If yes, it would provide motivations for  
policymakers to invest in work  
policies to re-skill and re-educate the  
workforce to support sustainability  
transition



# RESEARCH QUESTION





## Question 1: why and how firms engage in environmental issues?

Historical overview of regulatory pressures about environmental sustainability; responses of the firms (CSR, proactivity, ecoinnovation).

## Question 2: how do environmental culture and identity develop?

General definition of culture and identity; culture and identity development (Schudson, 1989; Kempton and Holland; 2003); environmental culture and identity in organizations.

## Question 3: how do environmental culture and identity spread?

Social, psychological, anthropological, behavioural theories:

*Theory of Normative Conduct (Cialdini et al, 1990);*

*Social Learning and Social Cognitive theory (Bandura, 1977; 1997); Interdependence or social exchange theory (Kelley and Thibaut, 1978);*

*Theory of planned behaviour (Ajzen, 1985);*

*New environmental paradigm perspective (Dunlap and Van Liere; 1978);*

*Norm activation theory (Schwartz, 1977) and its extended model Value-Belief-Norm theory by Stern (2000) in environmentalism;*

*Self-determination theory (Deci and Ryan; 2000);*

*Self-expansion theory (Aron and Aron; 1986);*

*Social information processing theory by Salancick and Pfeffer (1978)*



# LITERATURE REVIEW







# QUALITATIVE STEP

Semi-structured interview on 29  
workers (9 eco-innovative  
manufacturing firms)

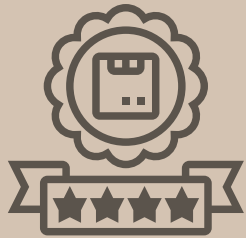
## Aim

Exploring the  
interrelation between  
corporate environmental  
culture and personal  
environmental culture  
and identity.

## Main features

- Several people of  
the same firm;
- Non-probability  
sample methods
- High heterogeneity
- Questions about  
workplace and  
private life.





# MAIN CONSIDERATIONS

- Employees with high environmental culture identify the workplace and education as origin of environmental concern;
- Work activity and learning process --> TNC and Social Learning theory
- Sustainability Report
- All respondents believe that environmental efforts are social and not individual
- The perception of working in a firm that cares about the environment, and with colleagues respecting this social norms, activates environmental commitment resulting into green behaviours and environmental identity





# QUANTITATIVE STEP

Multi-wave survey conducted in Italy on  
271 employees in 5 manufacturing  
medium firms

## Aim

Test the associations  
arisen from the literature  
and the qualitative step  
through a model of  
conditional analysis  
(Hayes, 2013).

## Variables

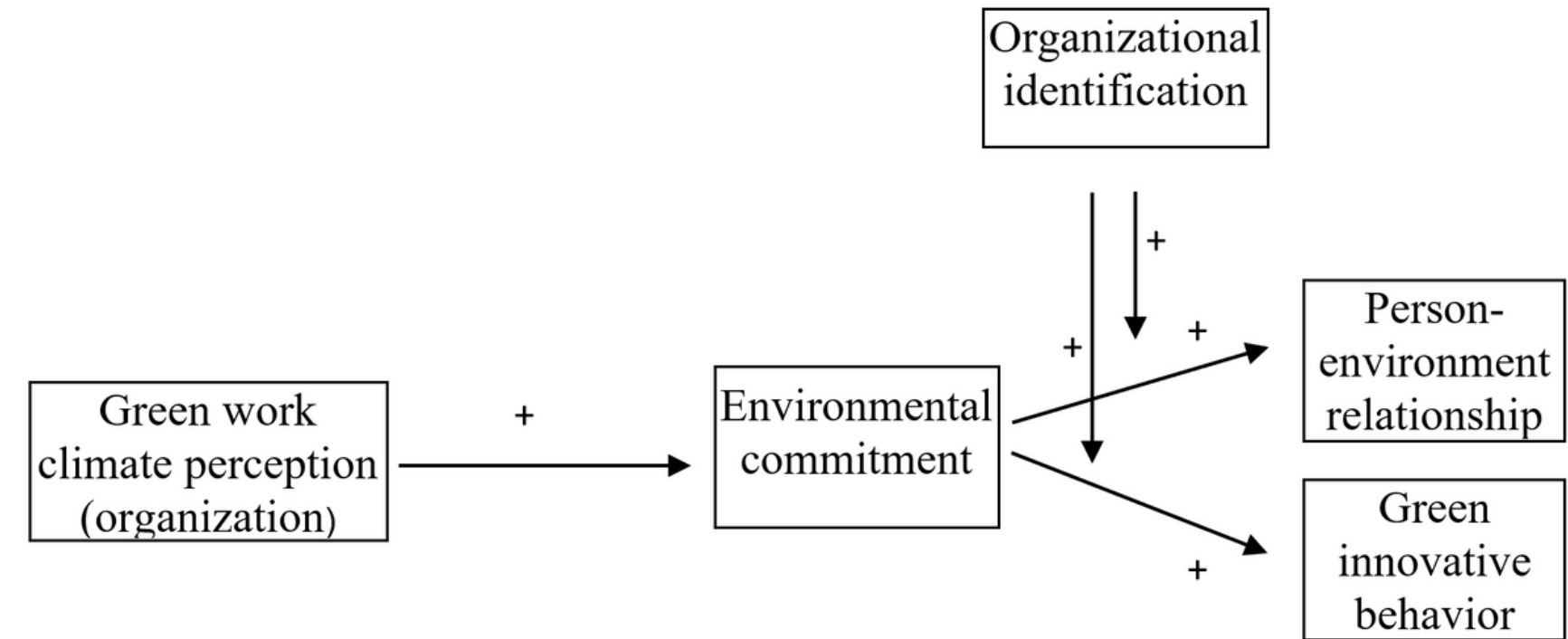
- Green work climate perception of the organization (X1)
- Green work climate perception of co-workers (X2)
- Commitment to the environment in the workplace (M)
- Green innovative work behaviours (Y1)
- Person-environment relationship (Y2)
- Organizational identification (m)



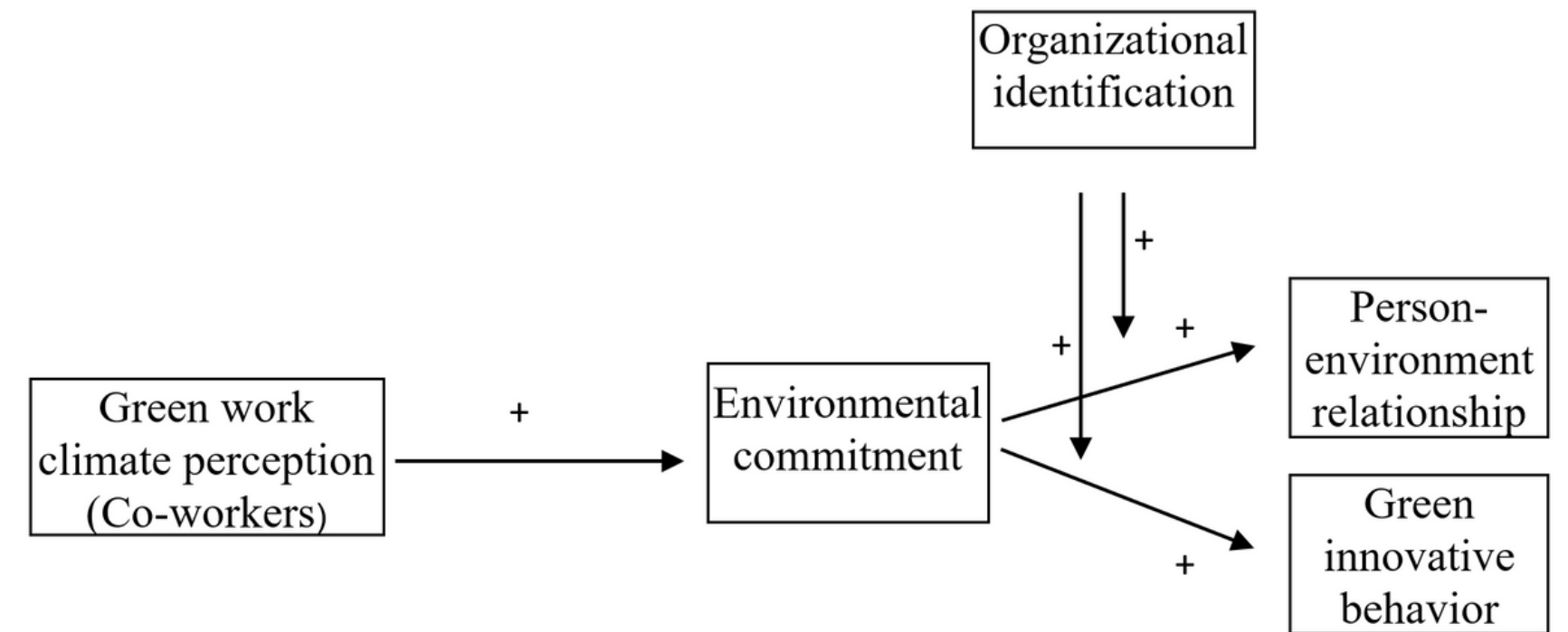


# MODELS

Model A



Model B





## Mediation

Hypothesis 1: The indirect effect of H1a) Green work climate perception (organization) and H1b) Green work climate perception (co-worker) on Person-environment relationship through Environmental commitment is positive.



Hypothesis 2: The indirect effect of H2a) Green work climate perception (organization) and H2b) Green work climate perception (co-worker) on Green innovative behavior through Environmental commitment is positive.



## Conditional

Hypothesis 3: Organizational identification strengthens the indirect effect of H3a) Green work climate perception (organization) and H3b) Green work climate perception (co-worker) on Person-environment relationship through Environmental commitment.



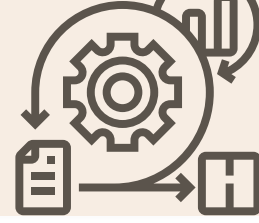
Hypothesis 4: Organizational identification strengthens the indirect effect of H4a) Green work climate perception (organization) and H4b) Green work climate perception (co-worker) on Green innovative behavior through Environmental commitment.



# HYPOTHESES







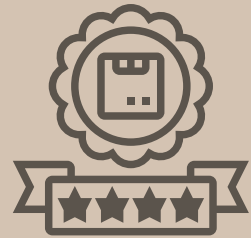
# RESULTS

Model A: Green work climate perception (organization) as independent variable							Model B: Green work climate perception (co-workers) as independent variable					
	Environmental commitment		Person- environment relationship		Green innovative behavior		Environmental commitment		Person- environment relationship		Green innovative behavior	
	B	<i>SE</i>	B	<i>SE</i>	B	<i>SE</i>	B	<i>SE</i>	B	<i>SE</i>	B	<i>SE</i>
Intercept	-2.57***	<i>0.50</i>	4.08***	<i>0.58</i>	2.36***	<i>0.30</i>	-2.76***	<i>0.56</i>	4.65***	<i>0.62</i>	2.74***	<i>0.32</i>
Organization 1	-0.21	<i>0.24</i>	-0.96***	<i>0.27</i>	-0.07**	<i>0.14</i>	0.11	<i>0.25</i>	-0.76**	<i>0.26</i>	0.04	<i>0.14</i>
Organization 2	-0.17	<i>0.27</i>	-0.91**	<i>0.28</i>	0.10	<i>0.15</i>	0.16	<i>0.27</i>	-0.74*	<i>0.29</i>	0.19	<i>0.15</i>
Organization 3	0.31	<i>0.27</i>	-1.02***	<i>0.29</i>	-0.01	<i>0.15</i>	0.55*	<i>0.27</i>	-0.83**	<i>0.29</i>	0.11	<i>0.15</i>
Organization 4	-0.10	<i>0.29</i>	-1.10***	<i>0.29</i>	-0.12	<i>0.16</i>	0.28	<i>0.29</i>	-0.93**	<i>0.31</i>	-0.03	<i>0.16</i>
Age	-0.01	<i>0.01</i>	-0.01	<i>0.01</i>	0.01	<i>0.01</i>	0.00	<i>0.01</i>	0.01	<i>0.01</i>	0.01	<i>0.00</i>
Gender	-0.23	<i>0.15</i>	0.04	<i>0.16</i>	0.22*	<i>0.09</i>	-0.29	<i>0.16</i>	0.01	<i>0.17</i>	0.19*	<i>0.09</i>
Tenure	0.02	<i>0.01</i>	0.01	<i>0.01</i>	-0.01	<i>0.01</i>	0.02	<i>0.01</i>	0.01	<i>0.01</i>	0.01	<i>0.01</i>
Education	-0.01	<i>0.10</i>	0.20	<i>0.11</i>	-0.09	<i>0.06</i>	0.17	<i>0.11</i>	0.25*	<i>0.12</i>	-0.06	<i>0.06</i>
Position	0.3**	<i>0.09</i>	0.03	<i>0.10</i>	0.01	<i>0.01</i>	0.33	<i>0.09</i>	0.03	<i>0.10</i>	0.05	<i>0.05</i>
Green work climate perception	0.59***	<i>0.08</i>	0.27**	<i>0.10</i>	0.14**	<i>0.05</i>	0.47***	<i>0.08</i>	0.06	<i>0.09</i>	0.01	<i>0.05</i>
Environmental commitment			0.46***	<i>0.07</i>	0.52***	<i>0.05</i>			0.51***	<i>0.07</i>	0.55***	<i>0.04</i>
Organizational identification			0.04	<i>0.09</i>	0.14**	<i>0.05</i>			0.10	<i>0.09</i>	0.17***	<i>0.05</i>
Environmental commitment x Organizational identification			-0.01	<i>0.06</i>	0.08**	<i>0.03</i>			-0.02	<i>0.06</i>	0.08**	<i>0.03</i>
R <sup>2</sup>	0.29		0.34		0.65		0.23		0.32		0.64	
F	10.63***		9.99***		37.13***		7.93***		9.15***		35.38***	

Notes. n = 271. Standard errors in italic. The dummy “Organization 5” is not included in the equations because it is redundant.

\*p < 0.05. \*\*p < 0.01. \*\*\*p < 0.001.





# MAIN CONSIDERATIONS

- Results in line with previous research that link perceived environmental social norms and pro-environmental behaviours;
- Add on the cultural and educational effects that environmental policies and practices in the workplace may have on the private sphere of people;
- Social norms as independent variables and not mediator/moderator like in the literature;
- The workplace is able to influence green innovative work behaviours and to increase the feeling of interconnectedness with the environment --> personal environmental identity.




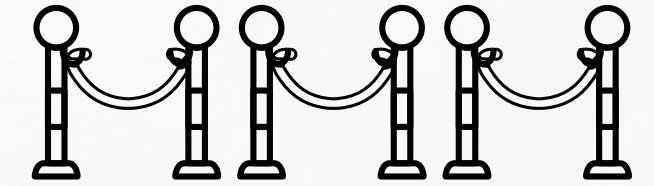


# SUMMARY OF FINDINGS

- Provide evidence that a green workplace has the potential to instill or empower **environmental identity** in employees;
- Environmental culture fostered by **social norms** and **social learning** processes
- Green work climate perceptions influence green innovative behaviours and person-environment relations through environmental commitment, revealing **spillover effects** in private life.
- Workplace policies -> environmental training -> **households**




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- Sample: only manufacturing firms; absence of control group; non-probability sample methods; non-representative results.
  - Data reliability: COVID-19 and the workplace; videocalls; SRs of 2020; only one researcher for interviews and content analysis; horizontal more than vertical analysis.
  - Design: second study on different firms; absence of cultural considerations (i.e., regional differences).
  - Lack of prior studies: also opportunity.
  - Self-reporting.

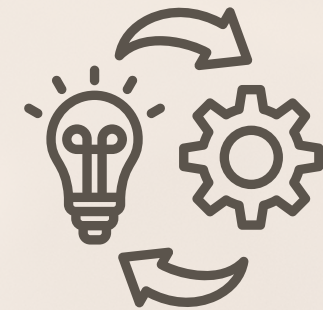


# **LIMITATIONS AND FURTHER STUDIES**





- 
- First theoretical link between environmental policies in the workplace and environmental culture/identity of people;
  - Firms beyond profit for a sustainable work-life balance;
  - Multidisciplinarity: making complexity inclusive through kaleidoscopic lens.



# **CONTRIBUTIONS AND IMPACT**







# THANK YOU

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