

Emotional reactions to climate change & associated coping strategies: a grounded theory study on graduate students of sustainability-related programmes

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Aim and Research Questions

- The aim is **to investigate the emotional reactions to climate change and relevant coping strategies among graduate students of sustainability-related programmes.**

RQ1. *What are the most common emotional reactions to climate change among graduate students of sustainability-related programmes?*

RQ2. *What are the coping strategies favoured by the students?*

Background

- “**Climate change** is as much a **psychological and social phenomenon** as a matter of biodiversity and geophysics and has impacts beyond the biophysical” (Doherty and Clayton, 2011, p. 266).
- Psychological impacts of climate change:** *direct and acute; indirect; psychosocial impacts.*
- Emotions** are ‘*affective intra-actions*’ (Barad, 2007; Verlie, 2019) **OR** ‘*human productions*’ moderated by one’s personal beliefs, values, and experiences (Doherty and Clayton, 2011; Verlie, 2019) **OR** *essential parts of risk perception* (Böhm, 2003) **OR** *consequences of the appraisal of events/situations* (Frijda et al., 1989)
- Groups of emotions** (Böhm, 2003):
 - prospective consequence-based emotions* (hope, hopelessness, worry, fear);
 - retrospective consequence-based emotions* (regret, sadness, sympathy);
 - self-related ethics-based emotions* (guilt, shame);
 - other-related ethics-based emotions* (anger, outrage, disgust, contempt, disappointment).
- Coping** can be defined as ‘**the cognitive and behavioral efforts** made to **master, tolerate, or reduce** external and internal **demands** and **conflicts** among them’ (Folkman and Lazarus, 1980, p. 223).
- Types of coping** (Lazarus and Folkman, 1984; Ojala, 2012): *problem-, emotion-, meaning-focused.*

Theoretical Framework

- Appraisal theory** is an approach in (social) psychology that is based on the close **interdependence of affective and cognitive human capacities** as it sees an **individual’s evaluation** of any given **event or situation** as the underlying matter of how emotions are elicited (Roseman and Smith, 2001, pp. 3-4; Forgas and Smith, 2007, p. 148).
- The six dimensions of appraisals** are (Smith and Lazarus, 1993; Forgas and Smith, 2007):
 - *Motivational relevance (MR).*
 - *Motivational congruence (MC).*
 - *Accountability.*
 - *Problem-focused coping potential (PFCP).*
 - *Emotion-focused coping potential (EFCP).*
 - *Future expectancy.*

Stressful encounter (high MR and MC) + Other-accountability = Anger

-II- + Self-accountability = Guilt
 -II- + low EFCP = Anxiety/Fear
 -II- + low PFCP + low Future expectancy = Sadness
 -II- + high PFCP + high Future expectancy = Hope

Methods

- ‘Grounded Theory methods consist of a systematic approach to inquiry with several key strategies for conducting inquiry’ (Charmaz, 2017).
- The major grounded theory strategies: *coding; memo writing; theoretical sampling and saturation.*
- Interviews:** 12 graduate students of sustainability-related programmes. 3 out of 12 - students of the programmes with ‘more applied focus’ (e.g. environmental policy, management, economics).

Results and Conclusion

- The major categories are:
 - Experiencing emotional rollercoaster (in-vivo):** students’ emotional reactions to climate change throughout their education by defining their distinctive peculiarities after starting sustainability-related academic programmes and distinguished causes
 - Implementing coping strategies (constructed):** coping strategies that the students preferred to utilise in order to reduce their displeasing emotions and elicit optimistic ones.

NO significant difference between two previously defined groups.

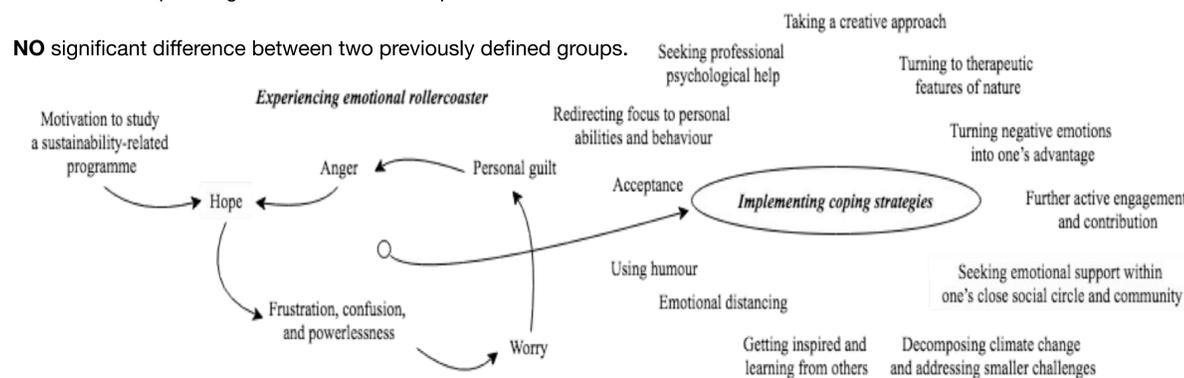


Fig. - Visual representation of categories and relevant focused codes

Experiencing emotional rollercoaster:

- Variety of emotions associated with climate change that graduate students of sustainability-related programmes experience throughout their education.
- Students do not necessarily experience just one exclusive emotion, but a combination or alternation of several emotions.
- Such process is neither linear nor paradigmatic.
- The most prevalent emotions: worry, anger, (personal/micro-level) guilt, hope, frustration, confusion, and powerlessness. => mostly negative emotions.

Implementing coping strategies:

- Problem-focused coping strategies: further active engagement and contribution, decomposing climate change and addressing smaller challenges, redirecting focus to personal abilities and behaviour, getting inspired and learning from others, seeking professional psychological help.
- Emotion-focused coping: taking a creative approach, seeking emotional support within one’s close social circle and community, turning to therapeutic features of nature, emotional distancing, and acceptance.
- Meaning-focused coping strategies are using humour and turning negative emotions into one’s advantage.
- The most effective coping strategies for students were further active engagement and contribution, decomposing climate change and addressing smaller challenges, turning negative emotions into one’s advantage (positive reappraisal/reframing) and acceptance.
- Negative emotions and relevant coping strategies might have disadvantageous and beneficial effects on the overall subjective well-being of the students as well as their motivation to be engaged in climate change mitigation.
- Unexpected finding: students seek professional psychological help.
- Limited number of env. psychology courses elements => Need for more courses or integration of env. psychology in their elements => sensibilisation and normalisation of (negative) emotional responses and coping mechanisms.

References

- Barad, K. (2007). Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning. Duke University Press.
- Böhm, G. (2003). Emotional reactions to environmental risks: Consequentialist versus ethical evaluation. *Journal of environmental psychology*, vol. 23 (2), pp. 199–212 Elsevier.
- Charmaz, K. (Academic). (2017). An introduction to grounded theory [Streaming video]. Retrieved from SAGE Research Methods.
- Doherty, T.J. & Clayton, S. (2011). The psychological impacts of global climate change. *American Psychologist*, vol. 66 (4), pp. 265–276
- Folkman, S. & Lazarus, R.S. (1980). An analysis of coping in a middle-aged community sample. *Journal of health and social behavior*, pp. 219–239 JSTOR.
- Folkman, S. & Lazarus, R.S. (1984). Stress, appraisal, and coping. New York: Springer Publishing Company.
- Forgas, J.P. & Smith, C.A. (2007). Affect and emotion. *The Sage handbook of social psychology*, pp. 146–175
- Frijda, N.H., Kuipers, P. & Ter Schure, E. (1989). Relations among emotion, appraisal, and emotional action readiness. *Journal of personality and social psychology*, vol. 57 (2), p. 212 American Psychological Association
- Ojala, M. (2012). Regulating Worry, Promoting Hope: How Do Children, Adolescents, and Young Adults Cope with Climate Change?. *International Journal of Environmental and Science Education*, vol. 7 (4), pp. 537–561 ERIC.
- Roseman, I.J. & Smith, C.A. (2001). Appraisal theory: Overview, assumptions, varieties, controversies. *Appraisal processes in emotion: Theory, methods, research.* (Series in affective science). New York, NY, US: Oxford University Press, pp. 3–19.
- Smith, C.A. & Lazarus, R.S. (1993). Appraisal components, core relational themes, and the emotions. *Cognition & Emotion*, vol. 7 (3–4), pp. 233–269 Taylor & Francis.
- Verlie, B. (2019). Bearing worlds: learning to live-with climate change. *Environmental Education Research*, vol. 25 (5), pp. 751–766 Taylor & Francis.

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