University of Southampton

Faculty of Environmental and Life Sciences

School of Psychology

Understanding the Role for Clinical Psychologists Amid the Climate and Ecological Emergencies: A Systematic Review Exploring the Psychological Impacts of Climate Activism and an Empirical Study Envisioning How Clinical Psychology Could Mitigate and Adapt to the Climate and Ecological Emergencies

by

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Chapter 1 has been written for submission to the Clinical Psychology and Psychotherapy Journal (see Appendix A.1 for journal submission guidelines). Chapter 2 has been written for submission to PLOS Global Public Health Journal (see Appendix B.1 for journal submission guidelines)[1].

[1] Please note footnotes have been included in this manuscript to direct the thesis examiner and will be removed for journal submission.

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Abstract

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This thesis sought to explore the various avenues through which clinical psychology can serve the public amid the climate and ecological emergencies (CEE), from gaining a broader understanding of the psychological effects on individuals who take part in climate activism, to imagining what the profession could do to mitigate and adapt to the CEE.

A systematic review sought to synthesise the qualitative literature regarding the psychological effects that people can experience from taking part in activism. Ten studies were identified and included within the thematic synthesis. Three overarching themes were developed: 1. Climate Activism Takes Over, 2. Activism is Empowering, 3. Navigating Intra and Inter-personal Tension. These themes highlight the possible benefits and challenges that individuals can face from climate activism.

A qualitative empirical study sought to create a vision for the role of clinical psychology in mitigating and adapting to the deleterious impacts of the CEE on mental health. Story completion methodology was used to envision such a role. Thematic analysis of the stories developed three overarching themes: 1. Acknowledgement is the First Step, 2. Engagement in the CEE is Part of Creating a Role, 3. Going Forth in Unison. These results provide ideas for the changing role of clinical psychology within a changing society and how the profession can face up to the CEE.

Implications for practice are considered for those already engaged in or considering climate activism, as well as for the profession in mitigating and adapting to the CEE through greater nature connection and community approaches.

Table of Contents

Table of Tables[2]

[2] Tables will be re-numbered prior to journal submission. However, for the purposes of thesis submission they have been numbered according to the thesis chapter.

Table of Figures[3]

[3] Figures will be re-numbered prior to journal submission. However, for the purposes of thesis submission they have been numbered according to the thesis chapter.

List of Appendices[4]

[4] Please note appendices are only for the purposes of thesis examination and will not be submitted to the respective journals. Appendices A correspond to Chapter 1 and are presented within the chapter. Appendices B correspond to Chapter 2 and are presented within the chapter.

List of Appendices

Research Thesis: Declaration of Authorship

Print name: Georgia King

Title of thesis: Understanding the Role for Clinical Psychologists Amid the Climate and Ecological Emergencies: A Systematic Review Exploring the Psychological Impacts of Climate Activism and an Empirical Study Envisioning How Clinical Psychology Could Mitigate and Adapt to the Climate and Ecological Emergencies

I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. None of this work has been published before submission

Signature: Date: 14th May 2024

Chapter 1 "I alternated between crying from stress and simply being happy": A Qualitative Systematic Review Exploring the Psychological Effects from Taking Part in Climate Activism[5]

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[5] Please note this chapter has been formatted as per the guidelines for the Clinical Psychology and Psychotherapy Journal to which this paper will be submitted (see Appendix A.1 for guideline details). Despite footnotes not being permitted for journal submission they will be used here for the purposes of thesis submission to support the thesis examiner navigate this document.

1.1 Abstract

The climate and ecological emergencies are disrupting earth's natural systems, necessitating immediate action. These irreversible changes are having significant impacts on people's mental health; concurrent with government inaction, people experience climate-related distress and take public direct action to protest for change. It is understood that collective action can alleviate climate-related distress but at what cost? This systematic review sought to synthesise the qualitative literature regarding the psychological effects upon individuals who engage in climate activism. Following PRISMA methodology, six databases were searched and selected studies underwent quality appraisal. A resultant 10 studies were included for synthesis. Data was extracted and Thomas and Harden's (2008) thematic synthesis was conducted. Three overarching themes were developed, each containing subthemes: 1. Climate Activism Takes Over exemplifies how climate activism could be all encompassing from experiencing extreme emotions (Activism is all Encompassing, Impacting Wellbeing), to learning about intersecting injustices (Developing a New Psychological Awareness) prompting associated ethical behaviour change (Desiring Value Congruence). 2. Activism is Empowering demonstrates how activism can empower individuals in a multitude of ways highlighted by four subthemes (Activism is the Antidote to Distress, Solidarity – Power in Numbers, Active Hope Underpins Action, and Activism Provides Opportunities for Personal Growth). 3. Navigating Intra and Inter-personal Tension highlights how activism can lead to challenging personal emotional experiences whilst also challenging inter-personal conflicts with others and pervasive ideological beliefs. This review furthers understanding on the personal impacts from activism by providing a broad overview of the psychological effects and implications for practice.

1.1.1 Key Practitioner Message

- Taking collective action is increasingly being recognised as a method to alleviate climate-related distress.
- Our findings support this assertion that activism can help to mitigate climate-related distress, especially when experienced as empowering through solidarity.
- It was also found that empowerment from activism can include experiences of personal growth as well as developing active hope.
- However, there are also other impacts that taking part in activism can have on individuals, from experiencing high emotional burdens, inter-personal challenges, to activism being experienced as all encompassing.

- It is important that clinicians are aware of these broad psychological effects that taking part in climate activism can have on individuals so that they can better support clients already engaged in activism, or support clients to help them make informed choices for those contemplating taking collective action.

1.1.2 Key words:

climate change, activism, collective action, mental health, qualitative research

1.2 Introduction

According to the United Nations the climate and ecological emergency (CEE) is a looming cataclysm which necessitates immediate remedial action (United Nations Department of Economic and Social Affairs, 2023). Due to accelerated anthropogenic changes over the past 50 years, the earth's vital ecosystems and biodiversity are deteriorating (Díaz et al., 2019). These changes have significant direct and indirect ramifications on physical health, community health and mental health (Clayton et al., 2014). A recent review highlighted how climate change disrupts the conditions needed for good mental health, such as living, working and economic conditions. Those who live in communities at risk from extreme weather events and increasing temperatures are directly impacted, thus experiencing more stressors which negatively impacts mental health. Indirectly, those who have knowledge of the mounting climate threats and climate inaction also experience increased psychological distress (Lawrance et al., 2022). Both direct and indirect impacts are exacerbated for those who already face disadvantage (Watts et al., 2018).

The possibility for exponential indirect impacts from climate change on mental health is great, since anyone can know about climate change (Clayton, 2020). This is observed clinically by mental health professionals who are seeing more service users experience climate-related distress (Croasdale et al., 2023). Grief is experienced by many as ecological degradation and loss continues (Cunsolo & Ellis, 2018); and anxiety can be experienced through worries about the future and current inaction on climate change (Soutar & Wand, 2022). Furthermore, such knowledge of climate injustice can induce moral outrage (Antadze, 2020). It is known that for young people climate-related distress and anxiety are correlated to feelings of betrayal by government inaction on the CEE (Hickman et al., 2021).

To mitigate climate-related distress, individuals may employ emotion-focused coping (e.g. denial), meaning-focused coping (e.g. finding hope) and problem-focused coping (Homburg et al., 2007; Ojala, 2012, 2013); the latter two positively relate to pro-environmental behaviour, whilst emotion-focused coping is negatively associated. Individually engaging in pro-environmental behaviour is also associated with increased wellbeing; this is especially so for collective addressing of environmental issues (Capstick et al., 2022). Furthermore, it has been highlighted how collective action could be recommended by clinicians for 'eco-anxiety' (Baudon & Jachens, 2021). These postulations are supported by Pihkala's (2022) process-based model of eco-anxiety and eco-grief. The model proposes that individuals who have awoken to the CEE begin a process of 'coping and changing'. Here they engage in action for the CEE (e.g. political action), connect to their emotional experiences of the CEE (e.g. grief) as well as distance themselves from the CEE through behaviours such as self-

care and avoidance. The model asserts that continual engagement in these processes can support living with the ecological crisis.

Thus it follows that climate-related distress is compelling young people and adults to engage in activism, especially as a means to put pressure on politicians for their inaction on climate change (D'Uggento et al., 2023; Lorenzini & Rosset, 2023). Furthermore, there is a developing understanding that engagement in climate activism can serve to alleviate climate-related distress (Ogunbode et al., 2022). Engaging in collective action can protect against feelings of helplessness and despair and generate feelings of hope (Schwartz et al., 2022) and connection (Nairn, 2019). However, for many already engaged in the climate movement, denial and avoidance become necessary mechanisms to deal with ecological grief (Dennis & Stock, 2023), whilst others can burn out (Driscoll, 2020). Furthermore, those engaged in activism can attract negative attitudes (Klas et al., 2019). Williams (2023) highlights the importance for clinicians to support clients in understanding the possible psychological costs and benefits of engaging in collective action as a means to reduce climate-related distress.

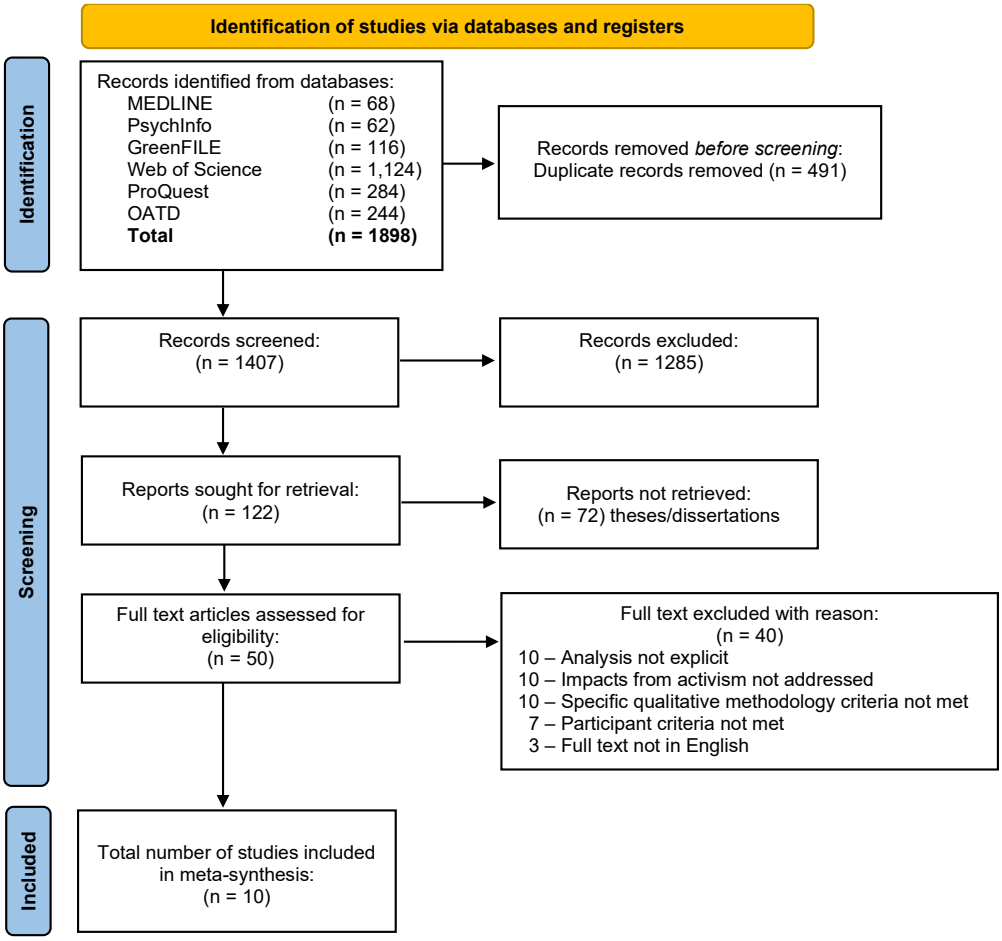
To date no other studies have systematically examined the literature regarding the psychological impacts of taking part in climate activism. Since some practitioners currently recommend collective-action as remedial for climate-related distress, a systematic review and synthesis of this evidence is needed to support clinicians in being aware of both the beneficial and challenging impacts that engaging in climate activism can have. This can therefore support clinicians in guiding their clients in informed choice for taking part in climate activism. Furthermore, mental health professionals have been called-on to use their skills to support climate activists (Li et al., 2022). Therefore, understanding the psychological effects of climate activism is needed to facilitate this work. Consequently, this systematic review seeks to answer the research question “what are the psychological effects on people who engage in climate activism?”

1.3 Methods

This qualitative systematic review followed the PRISMA method (Page et al., 2021) to ensure transparency and reproducibility (see Figure 1.1 for the PRISMA checklist). The protocol for this review was pre-registered on Prospero, the international prospective register of systematic reviews (PROSPERO, ID: CRD42023448121). After initial submission, one edit was made to the protocol to update the method of analysis from (Walsh & Downe, 2005) to (Thomas & Harden, 2008) in order to capture better secondary data, needed for this review (as explained under 'Eligibility Criteria').

Figure 1.1

PRISMA Flow for New Systematic Reviews (Page et al., 2021)



1.3.1 Eligibility Criteria

Studies were included that used explicit qualitative methodology to explore the psychological effects of engaging in climate activism for a person of any age. Psychological effects could include any cognitive, behavioural, social or emotional experiences pertaining from climate activism.

Furthermore, activism is defined in line with Stern's definition: "those [movement activists] who are committed to public actions intended to influence the behaviour of the policy system and of the broader population" (Stern et al., 1999, p. 82).

Since this is an under-researched area, all papers were included regardless of whether the psychological effects of engaging in activism were the primary or secondary focus or whether it appeared in emergent findings. Studies where participants worked in climate research or policy making were not included, unless they took part in direct public action. Furthermore, motivators for taking part in activism were not included; the psychological effects had to be occurring once engaged in activism, whether that be from taking part in one march, or within a lifelong pursuit of activism[6].

1.3.2 Searches

Primary qualitative data searches were completed across six databases in October 2023. For published literature Medline, PsychInfo, GreenFILE and Web of Science were used. Since it was anticipated that there would be little published material in this field, ProQuest and Open Access Thesis and Dissertation were used to search for grey literature.

Key search terms were identified through scoping of related literature and the PEO (Population, Exposure and Outcome) framework was used to structure the search. Since the population 'activists' and the exposure 'activism' are tautological, these were combined. Medical subject headings (MeSH) and subject headings were used where possible (see supporting information for further details of the search strategies). No limits were placed on publication date or language to ensure maximum identification of relevant articles, since some papers were written in both the primary language and English. Where such translations were not available then those papers were removed.

1.3.3 Study Selection

Study selection was conducted by the first author. 1,898 studies were identified from the aforementioned databases. EndNote citation software was used to manage the compilation and management of study selection (The EndNote Team, 2013). 491 duplicates were removed, which left 1,407 to be screened by the first author. Title and abstracts were screened based on the above eligibility criteria, resulting in 122 articles suitable for full-text retrieval. It became apparent that

[6] See Appendix A.2 for a tabulated form of the inclusion and exclusion criteria.

there were enough peer reviewed papers to remove theses and dissertations. Although including grey literature can support a balanced perspective on the available evidence, as well as reducing publication bias (Paez, 2017), it was decided that to ensure rigour and quality from here on in, only peer reviewed papers would be included (Ware, 2008). As such 72 theses and dissertations were removed, resulting in 50 papers suitable for full-text retrieval, of which 10 fully met the eligibility criteria. See Figure 1.1 for the full process of study selection.

If it was unclear as to whether a paper met the eligibility criteria, then this was discussed with a co-author until a consensus was made. Inter-rater reliability was assessed across ten percent of papers at each stage. For the title and abstract screening stage 88 papers were assessed by a second rater, of which there was a 97% agreement rate (κ=.848, p<.001). For full paper screening six papers were assessed by the second rater, resulting in a 100% agreement rate (κ=1.00, p<.001). This suggests a very good strength of agreement between the two assessments.

1.3.4 Quality Appraisal

Attree and Milton's (2006) quality appraisal checklist for qualitative research was used to support the quality assessment of the 10 studies which fully met the inclusion criteria[7]. The Cochrane's Qualitative and Implementation Methods Group suggest that when assessing justice-oriented research the stakeholders' involvement should be considered, as well as considering the benefits of the research and how it enhances understanding (Noyes et al., 2018). The Attree and Milton quality appraisal tool meets these criteria, with a focus on researcher reflexivity, funding sources and implications for policy and practice. It has also been previously used in other social-justice oriented research (Soutar & Wand, 2022) and so was deemed appropriate for the purposes of this review.

Attree and Milton (2006) combine critical appraisal, whereby reviewers can assess key aspects of the study needed for determining quality, as well as a scoring system, which supports the grading of studies. There are 10 sections within the checklist and each section prompts the reviewer to consider certain aspects of the study as well as assigning a score, from A – D: A - No or few flaws, B - Some flaws, C - Considerable flaws, study still of some value, D - Significant flaws that threaten the validity of the whole study. A total grade is awarded to the study based on the score assigned to the majority of the sections. Attree and Milton suggest that studies with an overall grade of 'D' be excluded. Quality appraisal was conducted by the first author, with a second reviewer assessing one third of those assessed. A 100% agreement rate (κ=1.00, p<.001) was established on the overall

[7] See Appendix A.3 for copies of the quality appraisal assessments.

gradings of the 3 papers assessed by both the first author and the second reviewer. There were some differences within the different sections of the quality appraisals, however these did not affect the overall paper grading. Furthermore, these differences were discussed and a consensus agreed. See Table 1.1 for a summary of the quality appraisal grading.

Table 1.1

Quality Appraisal Summary

Study	Back-ground of research	Aims & Objectives	Context	Appropriateness of design	Sampling	Data Collection	Data analysis & findings	Reflexivity	Value/ utility	Ethics	Overall assessment
(Bright & Eames, 2022)	A	B	A	A	B	B	B	C	A	C	B
(Budziszewska & Glod, 2021)	A	A	A	A	A	A	A	A	A	A	A
(Chang, 2022)	A	B	A	A	A	C	B	C	A	B	B
(Fisher, 2016)	A	A	A	A	A	A	B	B	A	D	B
(Lindemer, 2023)	A	A	A	A	A	A	B	C	A	A	B
(Martiskainen et al., 2020)	A	B	A	A	B	A	A	C	A	B	B
(Roy & Ayalon, 2023)	A	B	A	B	B	B	B	C	B	B	B

(Ruiz-Junco, 2011)	B	C	A	C	B	B	B	A	B	B	C
(Shepherd, 2002)	A	C	A	B	B	B	C	A	B	C	C
(Vamvalis, 2023)	A	B	A	A	B	A	B	B	A	C	B

Note. Grade A denotes 'no or few flaws', grade B denotes 'some flaws', grade C denotes 'considerable flaws, study still of some value' and grade D denotes 'significant flaws that threaten the validity of the whole study'.

1.3.5 Data Extraction

Data extraction was conducted by the first author using Microsoft Excel spreadsheet software. Data which was deemed relevant to the present review (author, year, country of study, qualitative methodology, data analysis methodology, aims, participants, setting, and key findings) was collated and summarised in Table 1.2. Within one study (Roy & Ayalon, 2023) not all participants met the definition of activism that this review is using. Therefore, data was only synthesised in relation to the seven participants who did meet the current inclusion criteria.

Table 1.2

Summary of Included Studies' Characteristics

Author/s, Year, Country	Design & Methodology	Aim	Participants & Setting	Participants' Country	Key findings
Bright & Eames, 2022, New Zealand	In-depth semi-structured interviews and thematic analysis	"Firstly, to gain a greater understanding of youth engagement with climate change and climate action and secondly, to seek youth's perspectives on effective classroom pedagogy for climate change education in secondary schools" (p. 16)	*n* = 15 (F 11, M 4) youth climate strike leaders, "identified with diverse ethnicities and lived in a range of urban or rural settings around Aotearoa New Zealand." (p 16.) Ages not provided.	New Zealand (*n* = 15)	Climate strike leaders experienced emotional journeys which the 5 themes captured: Apathy, Awareness, Anxiety, Anger, Action. Furthermore "their emotional journey directed cognitive growth" (p. 23).
Budziszewska & Glod, 2021, Poland	Semi-structured interviews and thematic analysis	"To explore and understand the experiences of young climate activists in depth...to examine the meanings to their involvement, the motivations they declare for taking action, and how they experience sociopolitical engagement as either supportive of or detrimental to psychological well-being	*n* = 8 (F 6, M 2) youth climate strike leaders. Residents of major cities (4) and different regions in Poland (4). Ages 15-21. Members of MSK, part of the global Fridays for Future movement.	Poland (*n* = 8)	4 key themes and associated subthemes: 1. Participation experienced as a necessity (1.1 Awareness of global emergency, 1.2. Concern for own future), 2. Participation as an empowering experience (2.1 Participation as a form of experiencing agency, 2.2. The powerful experience of street protest, 2.3. Learning, acquiring new skills), 3. Participation as a peer group experience (3.1 Friendship and connections 3.2. Experiencing conflicts and

		and personal development." (p. 1)			differentiation within the group), 4. Participation as a taxing experience (4.1 Activism and other areas of life, 4.2. Mobilization before a public protest, 4.3. Overworking and burn out)
Chang, 2022, Taiwan	Interviews and thematic analysis	"to explore the experience with and interpretation of this movement among young climate activists in Taiwan, a very different context compared to Northern Europe where the global movement started....The study further explores young activists' political resistance to and negotiation of these challenges, as well as their perspectives on the notion of global climate strikes." (p. 9)	*n* = 15 (F 9, M 6) youth climate activists from Taiwan's Fridays for Future movement (6 initiators and 9 participators). Ages 12 - 23. Activism was conceptualised here as action as opposed to strikes, due to the structural and political challenges youth climate activists encounter.	Taiwan (*n* = 15)	5 key themes: Teachers frowning on "Strike", Low Awareness on the right to strike, "The pressure from parents is really terrible", Strike is unsuitable to Taiwan, Implementation Strategies

Fisher, 2016, USA	Semi-structured interviews (15 via internet-based instant messaging, 2 via internet-based voice chat) and thematic analysis	"To explore the research question of the study – How do youth climate activists conceptualize their life trajectories of climate activism?" (p. 232)	*n* = 17 (F 7, M 10) youth climate activists from 14 countries "including Minority World and Majority World countries." (p232) Ages not provided. Despite participants self-identifying as youth and activists, the researcher concluded "all participants were activists because they all recalled actions with collective and political aims" (p. 233)	Brazil (*n* = 1), Mexico (*n* = 1), US (*n* = 2), Iceland (*n* = 1), Ireland (*n* = 1), Spain (*n* = 1), Norway (*n* = 1), Italy (*n* = 1), Nigeria (*n* = 2), Ethiopia (*n* = 1), India (*n* = 1), Nepal (*n* = 2), Bangladesh (*n* = 1), New Zealand (*n* = 1)	Of the four developed themes, three were relevant to this review and include: 2. Concern for nature and for social justice, 3. Committing as ceaseless and dynamic, 4. Committing to the movement, not just the issue.
Lindemer, 2023, UK	In-depth interviews and thematic analysis	To explore "how medical professional climate activists understand climate change; how they give meaning to engaging in climate activism; and, how they understand their effectiveness in doing so." (p. 771)	*n* = 20 medical professionals involved in climate activism across the USA (8), UK (5) and Germany (7). The researcher considered activism to be "efforts to critique and change the perceptions of and actions towards climate change by others, be it individuals or institutions." (p.770) Ages were not provided but seniority was provided: retired (3), senior (9), student (5), junior (3).	USA (*n* = 8), UK (*n* = 5) and Germany (*n* = 7)	Three main themes were identified: 1. Patient relationships, 2. Personal and professional relationships, 3. Mitigation approaches

Martiskainen et al., 2020, UK, US, Denmark, Norway, United Arab Emirates	Mobile structured interviews and observations, and thematic analysis	"To provide insights into the conjuncture of processes of global environmental change and patterns of climate activism in terms of cognitive (knowledge), affective (emotions, motivations) and behavioural (actions) aspects of climate protests." (p. 2)	*n* = 64 climate protestors attending climate strikes in Brighton, London, New Haven, New York and Stavanger in September 2019. This is where the majority of interviews took place, during strike action (six were completed the weekend following strike action over the phone). Age, gender, and other demographics were not collected. However, authors stated that “There was an effort to ensure diverse representation in our coverage of climate protesters across factors such as age, race, and gender” (p. 5)	UK (*n* = 24), Canada (*n* = 10), USA (*n* = 20), Norway (*n* = 10)	Out of three identified themes, 'Affective: emotions about climate change and motivations to strike' was of relevance for this review. The other two themes were: 'Cognitive: knowledge about climate change' and 'Behavioural: past and future climate change action'
Roy & Ayalon, 2023, Israel	Semi-structured online interviews and thematic analysis	"to explore how climate activists of different ages and cultures express understanding and compassion toward members of different generations in the face of changing climate realities." (p. 3)	In total this paper had 16 participants, however only the following met the participant criteria for this review and therefore only data pertaining to these participants, AS, LN, MSO, R, JF, AM, PT, have been extracted. *n* = 7 (F 5, M 2) climate activists, who were members of known climate activist groups. Ages 16-64.	India (*n* = 1), Tanzania (*n* = 1), Nigeria (*n* = 1), United Arab Emirates (*n* = 1), and Ireland (*n* = 3)	Two broad themes were identified which both contain subthemes: 1. Other- and Self-Directed Compassion Expressed by Older Activists (1.1 Empathy, solidarity, and respect, 1.2 blame and ageism) 2. Other- and Self-Directed Compassion Expressed by Younger Activists (2.1. forgiveness, understanding and solidarity, 2.2 ageism versus determination)

Ruiz-Junco, 2011, USA	In-depth interviews and grounded theory analysis	No explicit research questions or aims stated. However it was documented that the researcher would ask questions "to examine the relationship between individual and collective identities within this organization….to tell me about the process of becoming an activist, that is, how they got involved with this organization...any perceptions of self-change they experienced as a result of their activism and about the general impact their social movement participation had on different facets of their lives." (p. 718)	*n* = 30 (F 15, M 15) from AEU, "a Spanish nation-wide coalition of environmental groups of recent creation and an influential national-level actor in the Spanish environmental movement" (p. 716) whose members engaged in activist activities that broadly fit the definition for this review. Ages 24 - 76.	Spain (*n* = 30)	Three key themes (and 4 associated subthemes) were identified: 1. Biographical Identity Integration (1.1 Pre-activist Experiences Integrated into Activism, 1.2 Previous Activist Experiences Integrated into Current Activism), 2. Identity Extension (2.1 Experiences of Personal Coherence), 3. Identity Transformation (3.1 Eye-Opening Experiences). Of these 1.2, 2, 2.1 and 3.1 were relevant for this review.

Shepherd, 2002, Brisbane, Australia	Participant observation and in-depth interviewing. Analysed using grounded theory analysis techniques.	"To tap into the thoughts, feelings, beliefs, and behaviors of members of a small anarcho-environmentalist group in Brisbane, Australia." (p. 139)	*n* = 10 members from an anarcho-environmentalist group whose "activities were aimed at raising public awareness, involving local people in campaigns, and encouraging people to change their lifestyle to minimize their impact on the earth." (p. 139) Age, gender and ethnicity were not stated.	Australia (*n* = 10)	Three main themes were identified: 1. The Practice of Virtue: The Green Lifestyle, 2. Working on the Self, 3. Activism as a Vocation
Vamvalis, 2023, Canada	Semi-structured interviews, iterative coding and theme development.	To explore "how educators and education systems can teach about climate justice in ways that nurture a sense of meaning, purpose and hope" and to explore "educational opportunities that recognize the embodied consequences of climate injustice and inaction on youth mental health and well-being" (p. 90)	*n* = 3 youth climate justice activists. Two were engaged with Fridays for Future, the other was part of "youth climate-led movements centred on enacting systems change." (p. 96) Aged 16 - 20. One participant identified as white, where as the author described two as "'racialized' to indicate that two of the participants would be "read" as youth of colour" (p. 96).	Canada (*n* = 3)	Four themes were identified: 1. struggles with overwhelming and multifaceted climate change emotions, 2. well-being through collective action and learning in movement building, 3. Robust understandings of climate justice developed outside formal education, 4. the importance of education and experiences related to political action and engagement - of which (2) was most relevant to this review

1.3.6 Data Synthesis

Thomas & Harden's 3 stages for thematic synthesis were undertaken to translate key concepts across studies, to ensure key findings are kept explicit across texts whilst transparent links are made (Thomas & Harden, 2008). Preparatory to analysis, sections within the studies pertaining to the relevant results were uploaded into Lumivero's (2023) NVivo software for qualitative data analysis. This mostly entailed the results sections, including direct participant quotes as well as researcher interpretation. For some studies it also included sections of the abstract or discussion which referred to the results.

Stage one entailed line by line coding of meaning and content across the texts which generated 130 codes. For stage two, these codes were refined and categorised into 15 descriptive hierarchical themes. Further review and refinement occurred in Stage three, where analytical themes were developed in the context of the given research question for this synthesis. To provide an example, three identified descriptive themes 'Activism supports wellbeing and personal growth', 'Solidarity is experienced as hopeful, empowering and supportive' and 'Positive emotions +or psychological experiences involved in climate activism' all described in similar but related ways how activism was experienced by participants as empowering. The way this empowerment was experienced differed, for example through learning new skills, by standing with many others in protest, or holding onto active hope. Therefore, these three themes were developed into an analytical them of 'Activism is Empowering', which ties these key findings together and explicitly answers the research question as to what the psychological effects from taking part in climate activism are.

In total, stage three resulted in three analytical themes: 1. Climate Activism Takes Over, 2. Climate Activism is Empowering, 3. Navigating Intra and Interpersonal Tension[8]. Thomas and Harden (2008) consider this third stage the most controversial, since it is required of the researcher to bring their own knowledge and insights to the data, thereby going beyond the content of the original studies. The first author (GK) led the code and theme generation, which was further discussed with other authors (MW and NM).

It is known that people often engage in climate activism from concern about the future and dissatisfaction with government inaction on the CEE (Haugestad et al., 2021). Although these psychological experiences might motivate and maintain activism, they are not as a result of activism.

[8] See Appendix A.4 for thematic development and final thematic map.

Therefore, care was taken in the following analysis to sideline psychological effects resulting from the CEE and governmental inaction and focus on what the psychological experiences of taking part in activism were like for the participants. It is important to note that experience and length of engagement in climate activism varied across participants. Therefore, the psychological effects from engaging in activism are synthesised here from a range of engagements in activism, such as one-off attendance at a protest to those who engage in life-long committed climate activism.

1.3.7 Positionality Statement

GK is a white-British, cis-gendered, female, middle-class, abled bodied, trainee clinical psychologist, who strives to ensure her psychological work is underpinned by values of climate and social justice. She has been active in psychological climate groups and therefore has first-hand experience of activism, as defined above. Furthermore, GK takes a non-pathologizing stance within psychology. She believes this is especially important when considering ecological distress, since such responses are expected given the threats humanity currently faces. Therefore, as well as supporting individuals to manage and cope with such emotional responses, GK endeavours to work with prevention in mind. Thus, within the present data GK has endeavoured to highlight the psychological effects from activism within their context of occurrence so to minimise pathologizing and to highlight root causes of emotional distress.

1.4 Results

1.4.1 Overview

The database searches resulted in 1898 records (see Figure 1.1). After duplicate removal and title and abstract screening, 50 full-text articles were reviewed, 10 of which were considered eligible for inclusion. As such this section pertains to the synthesis of these studies: Bright & Eames (2022), Budziszewska & Glod (2021), Chang (2022), Fisher (2016), Lindemer (2023), Martiskainen et al. (2020), Roy & Ayalon (2023), Ruiz-Junco (2011), Shepherd (2002), and Vamvalis (2023).

1.4.2 Study Description

The ten studies were published between 2002 – 2023. Researchers were based across the following countries: New Zealand, Poland, Taiwan, USA, UK, Denmark, Norway, United Arab Emirates, Israel, Australia, and Canada. The combined sample resulted in 189 participants. Ages ranged from 12-76-years-old, as indicated by five studies (Budziszewska & Glod, 2021; Chang, 2022; Roy & Ayalon, 2023; Ruiz-Junco, 2011; Vamvalis, 2023). Many studies did not provide full demographic information in order to protect participant anonymity considering the sensitivity surrounding activism. Therefore, summary descriptions have been provided where possible (see Table 1.3). Most of the studies used semi-structured or in-depth interviews for data collection. However, Martiskainen et al. (2020) used 'mobile' interviews and observation to gather in the moment data at climate protests. Shepherd (2002) also used observation in addition to in-depth interviewing.

It is important to note that not all participants from the Roy and Ayalon (2023) study met the definition of activism as used within this review. Therefore, data was extracted pertaining to the participants that did meet the inclusion criteria. Accordingly, the following summaries include participants from all the papers and those that met the inclusion criteria for the Roy and Ayalon study.

Table 1.3

Summary of Descriptive Statistics for the Included Studies

Sample	*n* (%)	Participants' country	*n* (%)	Partici-pants' gender	*n* (%)	Analysis method	*n* (%)
Youth	5 (50%)	Spain	31 (16%)	Not stated	97 (51%)	Thematic Analysis	7 (70%)
Adults	2 (20%)	US	30 (16%)	Female	53 (28%)	Grounded theory analysis	2 (20%)
Not stated	2 (20%)	UK	29 (15%)	Male	39 (21%)	Other	1 (10%)
Youth and Adults	1 (10%)	New Zealand	16 (8%)				
		Taiwan	15 (8%)				
		Canada	13 (7%)				
		Norway	11 (6%)				
		Australia	10 (5%)				
		Poland	8 (4%)				
		Germany	7 (4%)				
		Nigeria	3 (2%)				
		India	3 (2%)				
		Ireland	3 (2%)				
		Nepal	2 (1%)				
		Ethiopia	1 (0.5%)				
		Iceland	1 (0.5%)				
		Italy	1 (0.5%)				

Mexico	1 (0.5%)
Brazil	1 (0.5%)
Bangladesh	1 (0.5%)
Tanzania	1 (0.5%)
United Arab Emirates	1 (0.5%)

1.4.3 Quality Appraisal Results

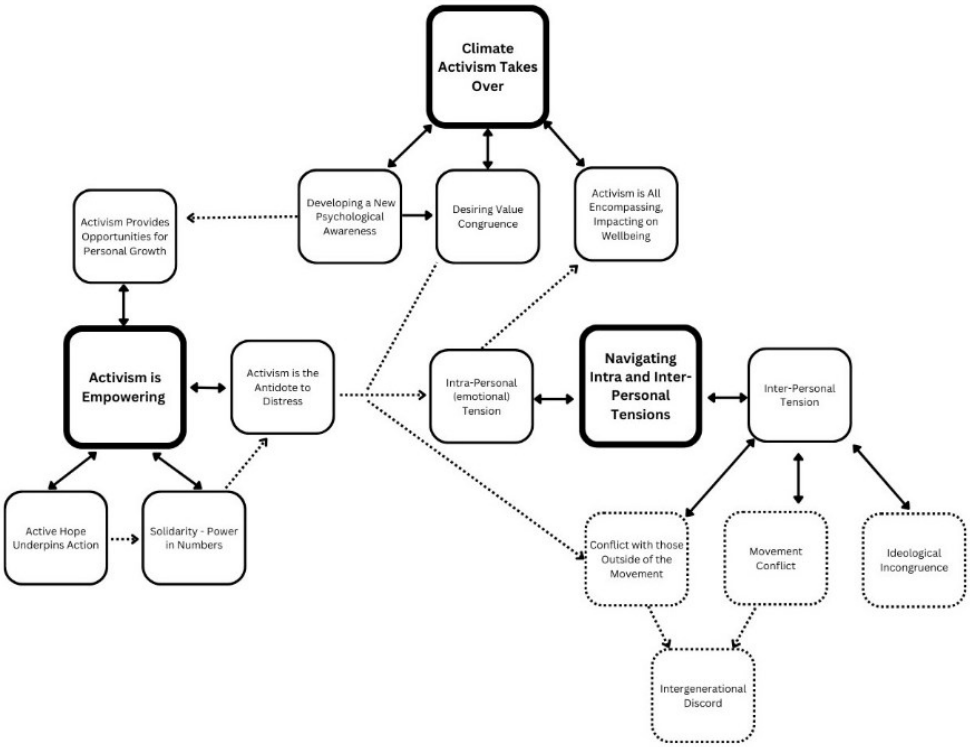
70% of the studies were given a total rating of B (some flaws), 20% C (considerable flaws, still some value) and 10% A (no or few flaws). All of the studies comprehensively explained the background and context of their research. The majority demonstrated the aims and intentions for their research, whilst 70% did not provide explicit research questions. Qualitative methodology was deemed appropriate for all of the studies; however, this would have been easier to ascertain had explicit research questions been provided. The majority of the studies demonstrated the utility of qualitative methodology and analysis techniques. However, only 30% thoroughly explored researcher reflexivity. All papers were considered to be of value, contributing to the evidence base. However, it is important to note that 40% of the papers did not ascertain whether ethics approval had been granted. Since no papers scored an overall rating of 'D - significant flaws that threaten the validity of the whole study', all papers were included for the meta-synthesis.

1.4.4 Themes

This qualitative synthesis sought to explore the psychological effects that people experience from taking part in climate activism. Three super-ordinate analytical themes are reported: 1. Climate Activism Takes Over, 2. Climate Activism is Empowering, 3. Navigating Intra and Inter-personal Tension.

Figure 1.2

Thematic Map of the Analytical Themes



1.4.4.1 Climate Activism Takes Over

The development of this theme happened to draw on content from eight of the ten studies (Bright & Eames, 2022; Budziszewska & Glod, 2021; Fisher, 2016; Lindemer, 2023; Roy & Ayalon, 2023; Ruiz-Junco, 2011; Shepherd, 2002; Vamvalis, 2023). It comprises three subthemes: 'Developing a New Psychological Awareness', 'Desiring Value Congruence' and 'Activism is all Encompassing, Impacting on Wellbeing'. It captures the different but related ways in which the studies described how activism can have the psychological effect of taking over one's life. Some participants and authors described how engaging in activism led participants to develop a greater psychological awareness of the climate and social injustices (a new psychological awareness). For some, this new awareness meant they attempted to pursue an ethical lifestyle (desiring value congruence) affecting them in different ways. Furthermore, in the lead up to specific actions participants and authors described how this process of activism can be all encompassing (activism is all encompassing), impacting activists' wellbeing.

1.4.4.1.1 Developing A New Psychological Awareness

In some studies, it was demonstrated that through climate activism, activists became more aware of the intersectional injustices that underpin the CEE and therefore developed a new psychological awareness of such inequities.

It was found that climate activism was an "emotional journey" whereby participants experienced "discomfort [that] led them to research, evaluate, and synthesise knowledge on climate science, climate action (or lack of it), political motives, economic and social disparities" (Bright & Eames, 2022, p. 20). Here it can be understood that from engaging in activism a discomfort of the climate injustices was experienced by participants which prompted a greater exploration of the connected social injustices. Furthermore, climate activism was also found to synthesize activists' "concern for nature and…for social justice" whereby engagement in activism enabled activists to see "their {nature and social justice's} interdependence" (Fisher, 2016, p.239). Thus, they developed a new psychological awareness of the relational dependence between humans and nature and the interconnecting injustices.

It was also found that this growing awareness of social and climate injustice invigorated activists, despite the "depression and despair" (Vamvalis, 2023, p. 99) they felt:

> "Yet connecting with other youth in their movement and learning from other collective struggles for civil rights, liberation and sovereignty were sources of deep inspiration and sustenance. These enabled them to continue feeling a sense of hope, meaning and possibility despite the terrifying projections for the future." (Vamvalis, 2023, p. 99)

Here, the growing psychological awareness of the intersectional injustices learnt from activism supports the activists in the movement and helped them to balance hope alongside despair.

Taken together it can be understood that engaging in climate activism led these activists to develop a new psychological awareness. This can be conceptualised as a personal paradigm shift, whereby the accumulation of new knowledge supports activists in developing a new understanding of the world, a new awareness. It is in this way that activism can be seen as taking over, since engaging in activism has taken over their previously held world views.

1.4.4.1.2 Desiring Value Congruence

This subtheme attests to the studies' exemplification of participants' desire for value congruence to meet their ethical and moral conscience. Budziszewska and Glod (2021) (whilst quoting a

participant) found that, through taxing and empowering experiences of navigating moral complexities, participants developed a sense of personal integrity:

> "Considering all actions undertaken in moral terms can be very taxing on an individual conscience, but at the same time, it conveys a certain maturity. If "doing the best I can" results in a sense of personal integrity, of taking the right side or doing the right thing, it can at the same time also be experienced as empowering." (p. 9)

Navigating moral complexities here hint at how these youths were starting to desire a value congruence; the youths' new psychological awareness not only developed their maturity but also a morally based personal integrity. This is like the concept of "personal coherence" (Ruiz-Junco, 2011, p. 725) which Ruiz-Junco explains arises from participants' environmental conscience. One participant explained personal coherence as "A process of personal transformation, but especially of watching over your habits, your behaviors, how you live, right?...it is a process that never ends, that you are in it. You discover yourself immersed in millions of contradictions" (Ruiz-Junco, 2011, p. 725-726). Here it is clear how this environmental conscience has taken over this person's life and therefore their activism has spawned into an activist lifestyle.

It was found that this need to be ethical was described by authors and participants in different but related ways. One participant described that "[Being committed to ethics] actually makes me feel quite trapped, it's like oh ok, I'm committed to this ethic" (Shepherd, 2002, p. 146). This suggests a lack of agency in ethical decision making. However, another study reflected similar constraints but from a personal choice of pursuing value congruence: "Sara felt compelled to make sacrifices in her daily life to make sure that more and more of her daily routines were in harmony with her environmental values." (Ruiz-Junco, 2011, p. 726).

It was described in two studies that this need for personal coherence/value congruence was necessary for participants' activism to be taken seriously. "But I believe that if we do not try little by little to choose some concrete commitments, we cannot open our mouth so much, at conferences and at talks, about changing the world, right?" (Ruiz-Junco, 2011, p. 727). This was also present in Shepherd's (2002) study, where she described the impacts from desiring value congruence for her participants as "gain[ing] an improved sense of self-worth and approval from others, and feel[ing] a sense of credibility when representing your views to others." (p. 151)

However, for some, being so open about their value congruence did not win the trust of others but risked losing it. Lindemer (2023) explored the costs of climate activism for medical professionals. Within this context being value congruent could "lose the trust needed to affect patient perceptions

of, for example, what medication to take" as well as "the potential loss of this standing due to termination of their employment as a general practitioner" (p. 773).

Overall, the desire for value congruence from engaging in climate activism can be seen as all-consuming. It can be understood to take over activists' lives, resulting in experiences of empowerment, to entrapment, to fear of loss of livelihood.

1.4.4.1.3 Activism is All Encompassing, Impacting on Wellbeing

Across four studies the psychological impacts on wellbeing from activism taking over ones' life were described. Budziszeka and Glod (2021) specifically explored the experiences of youth activists preparing for actions, whereby "in virtually all interviews, the time of preparation for the protests was described as a very intense and exhausting experience" (p. 15). They exemplified how participants faced many extreme emotions, negative and positive, due to engaging in activism. For example, one participant explained "I remember that it was a terribly crazy time in my life…I alternated between crying from stress and simply being happy, I couldn't wait for it to happen already" (p. 15).

However, in other studies activism taking over oneself was not experienced with positive affect. One participant felt deflated by the slow nature of activism whilst determined not to give up:

> "Honestly, at this point, I personally feel kind of resigned, like I am doing all the work that I can, but at the end of the day, I don't know how much my work is going to do anything, even it does, it might not do anything fast enough to save us. So I'm just trying to do as much as I can for the time I can." (Vamvalis, 2023, p. 117).

For others, activism being all encompassing was framed as sustainable practice, made so by developing coping mechanisms to preserve wellbeing in the face of ongoing climate activism. Roy and Ayalon (2023) (while quoting one of their participants) explain that "establishing a spiritual practice is integral to climate action as it "makes you more capable to have [bear] inconvenience in your system," {UK} which is important for sustainable practices" (p. 7).

Therefore, it can be seen that climate activism took over people's lives and depending on participant context and longevity of activism had different but related impacts on wellbeing.

1.4.4.2 Activism is Empowering

Whilst it can be understood from four studies that activism on some level took over participants' lives, across eight studies (Bright & Eames, 2022; Budziszewska & Glod, 2021; Fisher, 2016;

Lindemer, 2023; Martiskainen et al., 2020; Roy & Ayalon, 2023; Shepherd, 2002; Vamvalis, 2023) engaging in activism was also portrayed as empowering. Such empowerment came from different facets, succinctly summarised here:

> "The empowering aspects of activism were associated with a heightened sense of agency, a sense of belonging to a community, a sense of duty and ethical integrity, of finding one's voice and learning new skills, and a sense of personal growth." (Budziszewska & Glod, 2021 p. 1)

This quote captures many of the descriptive themes that contributed to the development of this superordinate analytical theme. Therefore, this theme reports on how empowerment was conceptualised across many of the studies as being interconnected to and interlinked with: 'Activism is the Antidote to Distress', 'Solidarity – Power in Numbers', 'Active Hope Underpins Action', and 'Activism Provides Opportunities for Personal Growth'.

1.4.4.2.1 Activism is the Antidote to Distress

Budziszewska and Glod (2021) explored the powerful experiences of street protest and described that for activists "Participating in climate strike protests appears to be a deeply empowering experience" (p. 12). They spoke of the "positive energy" (p. 12) and the "element of fun" (p. 12) that is present in direct actions, showcasing street protests as a positive experience for participants.

Furthermore, it was found that participants channelled their distress into activism, whereby their discomfort empowered them to action. For example, here one participant describes how they used their pain from the CEE to advocate for change:

> "Pretty sad. Most days, if there is a lot of climate news, I probably feel pretty terrible hearing about glaciers melting and the hottest year on record year after year and those sorts of statistics really get me down. But I try not to stay depressed. I try to act on it, email my politicians and really sort of keep at it." (Martiskainen et al., 2020, p. 9)

Similarly, it was found that participants' discomfort manifested as agency, resilience and empowerment through taking action, "strike leaders engaged with the roots of their discomfort driving each towards greater climate awareness and motivating action, both of which led to an increased sense of political agency, resilience, and empowerment" (Bright & Eames, 2022, p. 21). Here activism is described as remedying distress.

Furthermore, activism was found to be crucial for activists' wellbeing and ability to cope. For example:

> "K. talked about how, rather than thinking about climate catastrophe, she tried to focus on specific projects: K.: Otherwise, I wouldn't be able to cope with it, and I wouldn't be able to function. . . . Check (making a hand tick gesture), I did this and that." (Budziszewska & Glod, 2021, p. 11).

Despite what could be experienced as debilitating distress, a focus on achievable action empowered this participant to advocate for change. Therefore, it can be understood that activism can empower individuals by providing an antidote to their distress.

Not only was this experienced on the individual level, but it was described as a collective experience too:

> "Collaborating for radical change acted as a counterpoint and balm to their anxiety and despair. When I asked what gave them a sense of meaning, purpose and hope in the current context, they each separately acknowledged the importance of the movement to their well-being" (Vamvalis, 2023, p. 99).

Therefore, it can be understood that activism can be an antidote to distress. Furthermore, it is not just the manifestation of distress into action that is empowering but the collective nature of such activism too.

1.4.4.2.2 Solidarity – Power in Numbers

As was exemplified in the previous subtheme, it was found that collective action helped to mitigate distressing climate-related emotions. One participant described that "despite the fear, I feel strong. There is power in coming together today" (Martiskainen et al., 2020, p. 9). Here the coming together with others was experienced as empowering and strengthening. Furthermore, movement solidarity helped another participant not to feel alone, "I think it's important as well to have a community of support and feel like you're not alone in this work" (Lindemer, 2023, p. 775). Here there is a strengthening in being part of a community.

Being part of a community was also expressed as belonging, "MSK {The Youth Climate Strike in Poland} was an essential point of reference, an object of identification, a wellspring of a sense of belonging" (Budziszewska & Glod, 2021, p. 13). This sense of belonging was found to be important for some participants, for example, "Ohom said he liked the movement because of its global focus

and because he felt it welcomed people from all backgrounds. He considered himself a global citizen" (Fisher, 2016, p. 241). For Ohom being welcomed as a global citizen into a global movement can be understood as a sense of belonging and therefore empowerment.

In some studies it was described that participants "found hope in collective actions" (Vamvallis, 2023, p. 99), which was further exemplified by Martiskainen et al., (2020):

> "while protesters predominantly had negative feelings such as fear, anxiety and despair at the impacts that correspond with the climate crisis, responses to address climate change and collective action provided protesters with hope for the future" (p. 9).

Here it can be understood that collective action which provides hope is especially empowering. Overall, solidarity and collective action have been found to be empowering for participants in different but related ways, from strengthening to belonging, to igniting hope.

1.4.4.2.3 Active Hope Underpins Action

It was found that some studies implicitly explored the concept of 'active hope'. Active hope is different from being hopeful; it is "about becoming active participants in the process of moving toward our hopes and…realizing them" (Macy & Johnstone, 2022, p. 4).

A few participants implicitly spoke of how their activism supports active hope. One suggested that "this way I feel that I am doing something to have hope, because without involvement it would have been difficult to hope. To be able to feel, to make a difference." (Budziszewska & Glod, 2021, p. 11). Whilst another explained that "I do have a real positive sense, I guess a real hope, that it is possible to create a better future....It feels really good to be part of that, to be working towards that, and building something positive" (Shepherd, 2002, p. 151). Here, both participants are describing active hope, whereby their activism enables them to act in the service of their hoped-for future. Therefore, active hope can be understood as an aspect of empowerment, which one participant summarised:

> "The climate movement has been empowering. It is amazing to think of what we can do…If we take enough action, we can really lobby politicians to change their climate legislation; we can lobby banks to divest their money from fossil fuels, we can educate people around climate change and encourage them to take more action" (Vamvalis, 2023, p. 100).

Thus, active hope, acting in service of a desired future, supports participants' engagement in activism as an empowering experience.

1.4.4.2.4 Activism Provides Opportunities for Personal Growth

For some activists what empowered them in their activism was the opportunity to engage in experiences that supported their personal development, summarised by Budziszewska & Glod (2021) here: “the activists reported experiencing their involvement as an overwhelmingly positive experience that supported their personal growth” (p. 16).

For some it was found that this was in terms of knowledge and skills acquisition, “Lajos recalled the strikes taught him ‘more last year than any other year I attended school’” (Bright & Eames, 2022, p. 23), whilst in Roy and Ayalon’s (2023) study “younger activists were also open to intergenerational learning and transfer of indigenous skills and knowledge, thereby reiterating climate action as a collective, intergenerational effort” (p. 7). Here both solidarity and acquisition of skills coalesce.

For some the development of skills also supported the development of their own personal attributes, “they each acknowledged how their sense of agency and confidence were being developed by building applicable, real-world skills in organizing, research, communicating effectively, creating inclusive spaces, and mobilizing for action” (Vamvalis, 2023, p. 100). Within Budziszewska & Glod’s (2021) study participants spoke of developing self-belief and personal agency. They conceptualised that “the idea of learning and growing while also impacting the real world, adds another layer to the sense of empowerment present in participants’ narratives” (p. 13). Here it is identified how such opportunities for personal growth and development were an avenue for participants’ experiences of empowerment within their activism.

1.4.4.3 Navigating Intra and Inter-personal Tension

This superordinate analytical theme captures how activists experienced psychological tension which was present across eight studies (Bright & Eames, 2022; Budziszewska & Glod, 2021; Chang, 2022; Lindemer, 2023; Martiskainen et al., 2020; Roy & Ayalon, 2023; Shepherd, 2002; Vamvalis, 2023). This was conceptualised as ‘intra-personal tension’ and ‘inter-personal tension’, presented below as two subthemes. Intra-personally participants experienced internal tension in relation to certain emotions and psychological distress they were experiencing whilst engaged in activism. The ‘Inter-personal Tension’ subtheme captures the presence of psychological impacts from conflict within their relationships with others but also within their relationships with ideological beliefs. Some participants spoke about developing methods to manage such tension.

1.4.4.3.1 Intra-personal Tension

Some studies acknowledged the explicit emotional impacts that taking part in activism was having on participants. Vamvalis (2023) highlighted how youth "felt they were battling time, depression and despair" (p. 99) throughout their involvement in activism. This heavy burden of emotions was also acknowledged in Budziszewska & Glod (2021), who described that for youth activists "The experience of activism as a form of "saving" oneself and family members from a severe threat carries a heavy load of emotions and can be very taxing" (p. 9). Such difficulty of holding heavy emotions was not just present for youth activists; Roy and Ayalon (2023) highlighted that "Although all older participants were deeply invested in activism and had every desire and intention of making a difference, they sometimes struggled to balance "despair" with "hope" (p. 5). Therefore, the heavy emotional burden from taking part in activism was experienced by youth and adult alike.

Different methods for mitigating such burdens were found. Despite experiencing these intra-personal tensions, the youth in Roy and Ayalon's (2023) study "embedded self-compassion in their activism by honoring their fears and concerns for their futures" (p. 6) as a means to counteract such intra-personal tension. Whilst youth in Bright and Eame's (2022) study found taking part in strikes diffused their anger (considered here as an intra-personal tension), "The strikes enabled a public display of youth anger and this was considered a relief by some strike leaders" (p. 20). This echoes the previous theme of 'Activism is Empowering' where 'Activism is an Antidote to Distress'.

Therefore, similar but different expressions and experiences of intra-personal tension were found across the four aforementioned studies.

1.4.4.3.2 Inter-personal Tension

Across some of the studies it was found that participants experienced conflict within the climate movements, which is understood as a psychological effect from taking part in activism. One participant explained that "I remember that [after the climate strike protests] that was the moment when people started to get on each other a little bit . . . It was that moment of unloading all those emotions" (Budziszewska & Glod, 2021, p. 13). Here inter-personal conflict arises from intra-personal tension. Whereas, in another study a participant described conflict as solely inter-personal:

> "It's really bad...like that's one of the worst parts of it...it becomes quite personalized in some ways and its really easy to say "Well you don't eat organic eggs do you!" [or] "You've got too much plastic in your house."...It gets really full-on, and I think, that's really hard" (Shepherd, 2002, p. 146).

This quote demonstrates activists facing inter-personal judgement about whether they lead fully 'green' lifestyles and how this took its toll.

For other participants it was found that this relational tension occurred not just within the movement, but also outside of the group. This is exemplified here by Lindemer (2023): "Interviewee 8 described the simultaneous alienation from fellow Extinction Rebellion activists, with whom the interviewee strongly disagreed, and from their colleagues due to their affiliation with Extinction Rebellion" (p. 774). Here tensions within and outside of the activist group led to isolation. Others also faced disapproval from people outside of the movement, "Friends or family, people that I know that aren't involved, often don't give any amount of validity or approve of it" (Shepherd, 2002, p. 152). Thus, some activists had to endure relational tension due to their engagement in activism and for some this resulted in isolation from both family, friends and colleagues, also exemplified here:

> "It's very difficult to communicate with people about it without guilt and grief, and fear and anger, and upset. So I think naturally you will meet lots of resistance along the way… It's difficult sometimes to relate to people who I love because I feel like they're not getting it. And that's really hard. And it's hard at work. It's really hard at work." (Lindemer, 2023, p. 774)

Within Chang's (2022) study the relational tension experienced by participants was with the ideological beliefs that were pervasive in their society, creating challenges and psychological discomfort when planning actions. One participant described that "Student strikes have a negative image in the Taiwanese society, as many parents believe that students should focus on study, rather than wasting time on extracurricular events" (p. 14). Implicit here is the pressure that students faced not to strike. Furthermore, because of this difference in ideological beliefs, Taiwanese students often faced 'adultism', for example: "Absence from class is often regarded as an act of disobedience by teachers, entailing adultism and discrimination against these young climate activists, regardless of the justification for their cause." (p. 12) Therefore it can be understood that these participants faced the impacts of discrimination for engaging in climate activism.

Such intergenerational discord was present across cultures. Roy and Ayalon (2023) exemplified discrimination faced by adult activists from youth activists:

> "Some have faced accusations for perpetrating the climate crisis, and…displayed self-compassion by stating that, unlike current younger generations, they did not have access to crucial climate related information in the past, and therefore cannot be held entirely responsible for the crisis." (p. 5)

Here adults utilised self-compassion to manage the presence of inter-personal tension within their activism. Furthermore, from Bright and Eames (2022) we can understand the anger that some youth activists felt towards the adults as they demanded intergenerational justice, “The anger expressed by strike leaders stemmed from a lack of climate action and the apparent lack of adult awareness around the intergenerational injustice of the climate crisis” (p. 19). Despite the presence of such intergenerational discord, Roy and Ayalon (2023) explain how intergenerational compassion was also present for some of their youth participants:

> “And yet, in an act of solidarity, younger activists chose to look beyond generational failings and accepted responsibility for rectifying past mistakes. A couple of activists even credited the older generations’ actions for the platform of climate activism of the present.” (p. 6)

This again demonstrates how some participants managed intergenerational discord through using compassion. Therefore, it can be understood that intergenerational discord was present for some of the activists, however the way it manifested was different yet related across participants.

1.5 Discussion

The aim of this review was to qualitatively explore the psychological effects from taking part in climate activism. This systematic review provides a broad perspective on the psychological effects experienced by climate activists from climate activism and therefore contributes to the growing understanding of the personal implications taking part in climate activism can have.

Climate activism was experienced by many as empowering. There was the excitement and thrill from taking part in street protest leaving activists with positive affect; collective power from standing with others provided solidarity and a sense of belonging; active hope was present for some participants through their activism as they chose to act in line with their values and their hoped for future (Harris, 2019; Macy & Johnstone, 2022); and others experienced opportunities within their activism to gain new skills, knowledge and personal growth. It is known that psychological empowerment is a key facet of subjective wellbeing where experiencing empowerment develops self-belief in one's competence, resource, energy and ability to accomplish one's goals (Diener & Biswas-Diener, 2005). Furthermore, Drury and Reicher's (2009) model of collective empowerment and social change highlights how empowerment (the key tenets being emotion, e.g., exhilaration, and reason, e.g., active hope) is a necessary conduit for social change. Taken together, it can be understood that taking part in activism especially collective action, when experienced as empowering, can support individuals' quality of life.

However, engaging in activism also presented participants with challenges. Intra-personal tension was experienced by some as a heavy burden of emotions from taking part in activism. Despite some participants struggling to manage this emotional toll others found methods to mitigate such distress. Self-compassion was used by some activists to accept and respect their emotional experiences and self-compassion has been acknowledged in wider literature as a needed tool for activists to negotiate the continuing existential overwhelm they inhabit (Calabria et al., 2023; Gerber, 2023). For others, taking direct action was experienced as a release of the emotional toll and thus can be considered as an antidote to distress, as well as an aspect of empowerment. Therefore, despite the heavy emotional burden that taking part in activism can affect, having methods to manage such distress was seen as important.

Challenges were also experienced inter-personally. This occurred for some participants within the movement and included: disagreeing on direct actions, rising tensions post-action, and inter-personal judgements on how ethical each other's lifestyles were. Others found it hard to manage discourse with those outside of the movement and were concerned that their activism would

receive disapproval, as well as relational disconnect with those who did not understand the immediacy of action the CEE necessitates. For others such disapproval of their activism could cost them their job, better understood as activism taking over since the repercussions of activism could alter one's life course. These interpersonal challenges can be understood by Tajfel and Turner's (1979) theory of intergroup conflict, which posits that in-group favouritism leads to out-group discrimination (whereby out-groups could occur within a movement e.g., different activist subgroups, or outside of the movement, e.g., activist versus non-activist groups). Furthermore, they demonstrate how individuals strive to maintain their own positive social identity to increase self-esteem and when this is unsatisfactory may try to make their group's social identity more distinct, explaining the presence of interpersonal judgements within activism. Williams (2023) uses a social identity approach to consider such costs as well as the therapeutic benefits of taking part in collective action.

Activism taking over and being experienced as all-encompassing is commonly framed as 'burnout'. This is a phenomenon whereby unmanaged overwhelming stress can lead to activists distancing themselves from the movement in order to cope (Cox, 2011). However, interestingly 'burnout' was only discussed in one study and fleetingly mentioned in another. Furthermore, the synthesised data demonstrated both negative (e.g., exhaustion, resignation) and positive impacts (e.g., happiness, utilising spiritual practice to cope) of activism taking over. This corroborates recent research which highlights how activists have developed emotional support structures to maintain their activism (Hoggett & Randall, 2018). Furthermore, it is known that groups such as Extinction Rebellion have developed regenerative cultures to support activists from the negative impacts of all-encompassing activism (Rowe & Ormond, 2023; Westwell & Bunting, 2020).

Activism took over activists' lives in other ways too, from developing a new psychological awareness of the intersecting injustices at play in the CEE, to desiring to lead their lives in a way that is congruent with their values. This heeds Stern and colleagues' (1999) Value-belief-norm theory which posits that pro-environmental behaviour, such as activism, results from an increased awareness of the intersecting injustices and threats from the CEE, which can lead to an obligation to act and take personal responsibility for one's own actions and lifestyle choices. Therefore, it is understandable that the psychological effects from activism taking over resulted in participants developing a new psychological awareness of intersecting injustices and ethical behaviour change to support this new awareness.

1.5.1 Implications for Practice

Professionals may use this meta-synthesis to further understand the psychological effects that taking part in activism can have on activists. This is especially relevant given collective action has been identified as a plausible intervention for 'eco-anxiety' (Baudon & Jachens, 2021). Therefore, clinicians need to know the nuances of how activism can benefit clients whilst also understanding the possible challenges they may encounter, which is what this meta-synthesis provides. Thus, the synthesis of knowledge this review brings can support clinicians to refine their psychological assessments of whether collective action is appropriate for their client. Furthermore, it can support clinicians in understanding pertinent questions to ask in therapy so to help their client discover the benefits and disadvantages of activism. In these ways this meta-synthesis may enable clinicians to support clients considering taking part in direct action of the personal benefits and associated challenges that activism can entail.

Furthermore, for clinicians recommending collective-action as a remedial mechanism for climate-related distress this review will support the foundations for informed choice for their clients. Clinicians should ensure that their clients are aware of the possible benefits (e.g., empowerment) and the potential disadvantages (e.g., interpersonal conflict) that this review has identified.

For psychological professionals already supporting activists this meta-synthesis provides insight into the psychological effects activists may already be experiencing. Within this review the utility of compassion-focused approaches were evidenced for managing the demands that activism brings. This echoes suggestions that Neff & Germer's Mindful Self-Compassion Program could support activists in developing self-compassion (Gerber, 2023; Neff & Germer, 2013). Furthermore, Calabria et al. (2023) demonstrate utilising Compassion Focused Therapy's 'Three Systems Model' (Gilbert, 2014) to formulate the emotional burdens of climate scientists. This could be a useful application for practitioners to formulate the impacts of activism on their clients through a compassion-focused lens, as well as providing avenues to support coping through the cultivation of the 'soothe' system.

1.5.2 Strengths and Limitations of the Included Papers

The included papers used explicit qualitative research design and methodology, despite some flaws as outlined in the quality appraisal. From the quality appraisal 10% of the papers were rated a total score of A (no or few flaws), 70% B (some flaws) and 20% C (considerable flaws but still of some value). Despite differing flaws, all papers were considered to hold value worth contributing to this area of study and therefore have been given equal weighting in terms of the synthesis. Few of the

papers explored the psychological effects from taking part in activism as part of their main aim. However, for most papers the psychological effects from taking part in activism were evident in their secondary focus or emergent findings. Furthermore, within some of the papers it was hard to distinguish whether the emotional impacts were as a direct consequence of the activism or from the CEE more broadly. Therefore, care was taken to ensure included data pertained to the relevance to activism. This highlights the need for more rigorous qualitative research that specifically seeks to explore the psychological effects from taking part in activism.

Many papers chose not to include substantive demographics as a means to protect participant identity. Despite all papers providing participants' country of residence, ethnicity was only considered in half of the papers. Yet it is known that the impacts of activism differ depending on one's intersectionalities. Nakate, a Ugandan climate justice activist has been omitted from climate conversations whilst experiencing some of the biggest direct impacts from the CEE in her country (Nakate, 2021). Furthermore, one of the included papers (Chang, 2022), highlighted the social inequalities ingrained in activism, where voices from certain social categories are privileged, thus increasing intersectional struggles for others. Therefore, studies would benefit from utilising and reporting diverse samples, to counter the pervasive whiteness in climate activism. Furthermore, for a more nuanced understanding of the psychological effects of taking part in climate activism it could be beneficial for more detailed demographics to be supplied, whilst balancing the importance of participant confidentiality.

1.5.3 Strengths and Limitations of the Review

This is the first systematic review to synthesise the psychological effects of taking part in activism from qualitative research. This review may help clinicians in guiding conversations about the possible benefits and challenges that can come from taking part in collective action. Furthermore, it may support clinicians in understanding the psychological effects of taking part in activism for clients who are already engaged in activism. However, it is important to note the limitations of this review. Due to the desire for rigorous peer-reviewed qualitative research, some papers that contained relevant results but did not meet explicit qualitative parameters were not able to be included. Therefore, there could be other dimensions of psychological effects from activism that were not captured here. Furthermore, from the studies synthesised many did not explore the psychological effects of activism as their main aim. Future research should investigate the psychological effects of activism as its main aim, so that a more detailed understanding of this area can be ascertained. Additionally, this review contains an all-age sample, with youth constituting half of the total sample. However, 20% of papers did not report ages which meant that it was not possible to ascertain aged-based

patterns of psychological effects from activism. Despite this, it is likely that engaging in activism could lead to different psychological effects depending on the activist's age. Therefore, future reviews should explore the psychological effects within specific age ranges for a more nuanced understanding of the psychological effects from engaging in activism. Finally, despite a global range of participants the majority of participants were from the global north and ethnicity was not widely reported. Kleres and Wettergren (2017) have highlighted the different roles emotions play in climate activism within different socio-political cultural contexts between the Global North and Global South. Therefore, results from this review likely do not represent globally the impacts from activism, highlighting generalisability issues. Thus, future reviews should seek to include more rigorous qualitative research with participants from the Global South.

1.5.4 Conclusion

This review synthesised qualitative research to highlight a broad scope of psychological effects that climate activists can experience from taking part in climate activism. This synthesis contributes to a wider understanding of the personal impacts from taking part in climate activism and thus has implications for clinicians supporting clients who are considering or already taking part in direct collective action. Further reviews should explore such psychological effects with more nuance, for example within specific age ranges and global spheres.

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1.7 Supporting Information[9]

1.7.1 Search Strategies per Database

Table 1

Search Strategy for Medline

MeSH Terms	(MH “Environmentalism”) (MH “Psychological Well-Being”) OR (MH “Mental Health”)
Line 1	(MH “Environmentalism”) OR TI/AB ((Climate OR environment*) N2 activis*) OR ((climate OR environment*) N2 protest*) OR ((strik* OR march*) N2 climate) OR eco-activis*
Line 2	(MH “Psychological Well-Being”) OR (MH “Mental Health”) OR TI/AB emotion OR mood OR feeling OR affect OR experience OR well-being OR "quality of life" OR perception OR "mental health" OR "mental illness*" OR "mental disorder*" OR "psychiatric illness*"
Line 3	Line 1 AND Line 2

Table 2

Search Strategy for PsychInfo

Subject headings	(DE “Environmental Attitudes”) (DE “Well Being+”) OR (DE “Mental Health”)
Line 1	((DE “Climate Change”) OR (“Environmental Attitudes”) AND (“Activism”) OR TI/AB ((Climate OR environment*) N2 activis*) OR ((climate OR environment*) N2 protest*) OR ((strik* OR march*) N2 climate) OR eco-activis*
Line 2	(DE “Well Being+”) OR (DE “Mental Health”) OR TI/AB emotion OR mood OR feeling OR affect OR experience OR well-being OR "quality of life" OR perception OR "mental health" OR "mental illness*" OR "mental disorder*" OR "psychiatric illness*"
Line 3	Line 1 AND Line 2

Table 3

Search Strategy for GreenFILE

Line 1	TI/AB ((Climate OR environment*) N2 activis*) OR ((climate OR environment*) N2 protest*) OR ((strik* OR march*) N2 climate) OR eco-activis*

[9] Supporting information will be submitted to the Clinical Psychologist and Psychotherapy Journal as a separate file, as per their submission guidelines.

Line 2	TI/AB emotion OR mood OR feeling OR affect OR experience OR well-being OR "quality of life" OR perception OR "mental health" OR "mental illness*" OR "mental disorder*" OR "psychiatric illness*"

Table 4

Search Strategy for Web of Science

Line 1	((Climate OR environment*) NEAR/2 activis*) OR ((climate OR environment*) NEAR/2 protest*) OR ((strik* OR march*) NEAR/2 climate) OR eco-activis*
Line 2	emotion OR mood OR feeling OR affect OR experience OR well-being OR "quality of life" OR perception OR "mental health" OR "mental illness*" OR "mental disorder*" OR "psychiatric illness*"

Table 5

Search Strategy for ProQuest

Line 1	((Climate OR environment*) NEAR/2 activis*) OR ((climate OR environment*) NEAR/2 protest*) OR ((strik* OR march*) NEAR/2 climate) OR eco-activis*
Line 2	emotion OR mood OR feeling OR affect OR experience OR well-being OR "quality of life" OR perception OR "mental health" OR "mental illness*" OR "mental disorder*" OR "psychiatric illness*"

Table 6

Search Strategy for Open Access Theses Dissertations

Line 1	((climate AND activist) OR (climate AND activism))
Line 2	(("mental health") OR (emotion) OR (well-being))

1.8 Appendices

1.8.1 Appendix A.1. The Clinical Psychology and Psychotherapy Journal Submission Guidelines

1. SUBMISSION

Authors should kindly note that submission implies that the content has not been published or submitted for publication elsewhere except as a brief abstract in the proceedings of a meeting or symposium.

Data Protection: By submitting a manuscript to or reviewing for this publication, your name, email address, and affiliation, and other contact details the publication might require, will be used for the regular operations of the publication, including, when necessary, sharing with the publisher (Wiley) and partners for production and publication. The publication and the publisher recognize the importance of protecting the personal information collected from users in the operation of these services, and have practices in place to ensure that steps are taken to maintain the security, integrity, and privacy of the personal data collected and processed. You can learn more at https://authorservices.wiley.com/statements/data-protection-policy.html.

New submissions should be made via the **Research Exchange** submission portal https://submission.wiley.com/journal/CPP. Should a manuscript proceed to the revision stage, authors will be directed to make revisions via the same submission portal. Authors may check the status of submission at any time by logging on to submission.wiley.com and clicking the "My Submissions" button. For technical help with the submission system, please review our FAQs or contact submissionhelp@wiley.com.

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Clinical Psychology & Psychotherapy aims to keep clinical psychologists and psychotherapists up to date with new developments in their fields. The Journal will provide an integrative impetus both between theory and practice and between different orientations within clinical psychology and psychotherapy. *Clinical Psychology & Psychotherapy* will be a forum in which practitioners can present their wealth of expertise and innovations in order to make these available to a wider audience. Equally, the Journal will contain reports from researchers who want to address a larger clinical audience with clinically relevant issues and clinically valid research. The journal is primarily focused on clinical studies of clinical populations and therefore no longer normally accepts student-based studies.

This is a journal for those who want to inform and be informed about the challenging field of clinical psychology and psychotherapy.

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Before you submit, you will need:

- Your manuscript: this should be an editable file including text, figures, and tables, or separate files – whichever you prefer. All required sections should be contained in your manuscript, including abstract (which does need to be correctly styled), introduction, methods, results, and conclusions. Figures and tables should have legends. Figures should be uploaded in the highest resolution possible. [OPTIONAL TEXT, if the journal is running image checks: If the figures are not of sufficiently high quality your manuscript may be delayed.] References may be submitted in any style or format, as long as it is consistent throughout the manuscript. Supporting information should be submitted in separate files. If the manuscript, figures or tables are difficult for you to read, they will also be difficult for the editors and reviewers, and the editorial office will send it back to you for revision. Your manuscript may also be sent back to you for revision if the quality of English language is poor.
- An ORCID ID, freely available at https://orcid.org. (Why is this important? Your article, if accepted and published, will be attached to your ORCID profile. Institutions and funders are increasingly requiring authors to have ORCID IDs.)
- The title page of the manuscript, including:
    - Your co-author details, including affiliation and email address. (Why is this important? We need to keep all co-authors informed of the outcome of the peer review process.)
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6. Acknowledgments;
7. Data Availability Statement
8. Abstract, Key Practitioner Message and 5-6 keywords;
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Book
Bradley-Johnson, S. (1994). *Psychoeducational assessment of students who are visually impaired or blind: Infancy through high school* (2nd ed.). Austin, TX: Pro-ed.

Internet Document
Norton, R. (2006, November 4). How to train a cat to operate a light switch [Video file]. Retrieved from *http://www.youtube.com/watch?v=Vja83KLQXZs*

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1.8.2 Appendix A.2. Inclusion and Exclusion Criteria

Table A2.1

Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Population/exposure = any human who has taken part in climate activism (where activism involves taking direct public action so to influence the public and policy makers)	Not climate researchers or policy makers (unless taking part in direct public action themselves)
Outcome = the psychological effects of engaging in climate activism	Not the motivators of taking part in climate activism. Not experiencing psychological distress due to the climate and ecological emergency in the absence of taking direct climate action
Qualitative research methodology and an explicit analysis methodology (primary research).	Autoethnography, literature reviews, book chapters, unpublished theses and dissertations

1.8.3 Appendix A.3. Attree & Milton's (2008) Quality Appraisal Checklist for the Ten Included Papers

Table A3.1

Attree and Milton's Quality Appraisal Checklist for Bright & Eames (2022)

Methodological area	Key criteria – comments	Yes/No	Quality score
Background of research	**Source of funding (relationship to findings?) –** No grant or funding was received.		A
	Name of study – From apathy through anxiety to action: emotions as motivators for youth climate strike leaders		
	Is the connection of the research to an existing body of knowledge or theory clear?	Yes	
Aims and objectives	**Is there a clear statement of the aims of the research? -** Authors state 2 research aims.	Yes	B
	Are the research questions clear? - These aims are not represented as research questions so therefore it cannot be ascertained directly what the research question/s were.	No	
Context	**Is the context or setting adequately described? -** Adequately yes, describes setting of participants, however more detail on duration of activism would have supported greater context setting. Information provided around nature of strikes, e.g. The Atotearoa strikes promoting the "Zero Carbon Amendment Act"	Yes	A
Appropriateness of design	**Are qualitative methods appropriate?**	Yes	A
	Is the research design appropriate to address the research aims? Is it 'fit for purpose'? - They seek to understand experience and use an interpretative approach to explore the meanings that participants garnered from their activism experiences.	Yes	

Sampling	**Sampling strategy –** Snowballing, whereby climate strike leaders were identified in newspaper articles, approached on social media, and they then recommended other leaders.		B
	Is the sampling strategy appropriate to address the research aims?	Yes	
	Criteria used to select the sample - Youth Climate Strike Leaders but doesn't explain why strike leaders only.		
	Does the sample include an adequate range of possible cases or settings?	Yes	
	Sample size – 15 ("eleven female and four male, identified with diverse ethnicities and lived in a range of urban or rural settings around Aotearoa New Zealand"). Ages not provided and not an even gender split. Diverse ethnicities not elaborated upon.		
	Is the sample size justified?	No	
	Did any participants choose not to take part in the study? - Not mentioned so unknown, no further discussions around recruitment	No	
Data collection	**How data were collected, and by whom? –** "In-depth, semi-structured interviews were conducted via Zoom over two months…Participants were able to review and edit their interview transcripts". It is not stated who conducted these interviews nor justification provided for this methodology.		B
	Is the form of data clear (e.g., tape recordings, fieldnotes, etc)?	Yes	
	Were any methods modified during the research process? – Not stated so assume no.	No	
	Does data collection involve triangulation (of multiple methods or data sources)?	No	

	Is there evidence that data collection was systematic (e.g., an 'audit trail')? - All that is reported is that interviews were conducted on zoom and participants could review and edit their transcripts.	No	
Data analysis and findings	**How was the analysis carried out? –** Nowell, Norris, White & Moules' (2017) Thematic Analysis – however indepth process of this not provided		B
	Are sufficient data presented to support the findings?	Yes	
	How were data selected for inclusion in the report? - Not stated apart from following the above analysis methodology.		
	Are data annotated with demographic details of contributors? – ages provided in text in results section	Yes	
	Do the findings directly address the research question? - Answered based upon research aims since no research questions were provided.	Yes	
	Does the research privilege subjective meaning?	Yes	
	What steps were taken to demonstrate the trustworthiness of the findings (e.g., negative cases, respondent validation)? – Participants reviewed their own transcripts prior to analysis for respondent validation. Explicit consideration of privilege of participants and therefore academic attainment etc. Few negative cases provided.		
	Have the limitations of the study and their impact on the findings been taken into account? - The only limitation considered was how participants came from higher economic communities and all identified as high achieving students. This lack of diversity was acknowledged.	No	
Reflexivity	**Has the relationship between researchers and participants been adequately considered?**	No	C

	Do the researchers reflect on their personal viewpoints and experience that they bring to the research setting? - Their profession is stated but not reflected on.	No	
How valuable or useful is the research?	**Does the research add to knowledge, or increase the confidence with which existing knowledge is regarded?** **Is there discussion of how findings relate to wider theory; consideration of rival explanations?** **What are the implications for policy and practice – how is it 'fit for purpose'?** - "Classroom strategies…should offer holistic involvement that engages the head, the heart and the hands." - "it is time for educators to consider classroom strategies that don't shy away from the emotional journey but gently embrace it"	Yes Yes	A
Ethics	**How have ethical issues been taken into consideration (e.g., consent, confidentiality, anonymity, distress to participants)?** Yes - Parental consent gained for those under the age of 16 - Pseudonyms used No - No mention of consent for those aged 16+ - No comment on how the research was explained to participants - No consideration of the impact that the interview topic could have on participants, such as distress and how this would be managed - No mention of ethics approval being granted - No consideration of where the audio recordings were stored and how long for		C
Total			B

Table A3.2

Attree and Milton's Quality Appraisal Checklist for Budziszewska & Glod (2021)

Methodological area	Key criteria – comments	Yes/No	Quality score
Background of research	**Source of funding (relationship to findings?) –** This work received support from the Faculty of Psychology, University of Warsaw from the funds granted by the Ministry of Science and Higher Education. This came in the form of a subsidy for the maintenance and development of research potential in 2021.		A
	Name of study – These Are the Very Small Things That Lead Us to That Goal: Youth Climate Strike Organizers Talk about Activism Empowering and Taxing Experiences		
	Is the connection of the research to an existing body of knowledge or theory clear?	Yes	
Aims and objectives	**Is there a clear statement of the aims of the research?**	Yes	A
	Are the research questions clear?	Yes	
	"The current study aimed to seek answers to the qualitative research questions: - How do young climate activists in MSK experience their involvement? - What motivates them? - Which aspects of this involvement are experienced by them as sustainable and supportive, and which as burdensome?"		
Context	**Is the context or setting adequately described?**	Yes	A
Appropriateness of design	**Are qualitative methods appropriate?**	Yes	A
	Is the research design appropriate to address the research aims? Is it 'fit for purpose'? - Author's justified research design	Yes	

Sampling	**Sampling strategy –** Mix of purposive and snowball sampling		A
	Is the sampling strategy appropriate to address the research aims?	Yes	
	Criteria used to select the sample - Members of MSK (Poland's Fridays for Future movement) - Those who acted as organisers of the recent street protests - Recruited a breadth of ages, genders and places of residence		
	Does the sample include an adequate range of possible cases or settings? However, not evenly split in terms of gender (but stated this represents the youth activist population in Poland) nor are ethnicities acknowledged	Yes	
	Sample size – 8		
	Is the sample size justified? - Once enough rich data was collected, recruitment ceased	Yes	
	Did any participants choose not to take part in the study? - Not mentioned so unknown and thus assumed to be no	No	
Data collection	**How data were collected, and by whom? –** Mixture of in person and online semi-structure interviews. However identity of interviewer withheld for anonymity for review.		A
	Is the form of data clear (e.g., tape recordings, fieldnotes, etc)?	Yes	
	Were any methods modified during the research process? – Due to COVID-19 and associated lockdowns four of the interviews had to be moved online as opposed to being conducted in person	Yes	
	Does data collection involve triangulation (of multiple methods or data sources)?	No	
	Is there evidence that data collection was systematic (e.g., an 'audit trail')?	Yes	

Data analysis and findings	**How was the analysis carried out? –** Using Braun and Clarke's thematic analysis. Both authors engaged in this process individually and then they came together to discuss and identify distinct patterns of meaning.		A
	Are sufficient data presented to support the findings?	Yes	
	How were data selected for inclusion in the report? - The most relevant quotations were chosen by the agreement of both researchers to ensure they illustrated the ideas being presented		
	Are data annotated with demographic details of contributors? – There's a table of demographics per participant however the demographics are not written in text in the results section	No	
	Do the findings directly address the research question?	Yes	
	Does the research privilege subjective meaning? - "the results are presented in such a way as to render the participants' voices as faithfully as possible and to grasp how they make sense of their experience."	Yes	
	What steps were taken to demonstrate the trustworthiness of the findings (e.g., negative cases, respondent validation)? – Collaborative coding and analysis were employed to enhance intercoder reliability		
	Have the limitations of the study and their impact on the findings been taken into account? - Small scale design and purposive sampling, thus not generalisable - Study is context specific (a strength and limitation) - MSK movement relatively new so a long-term perspective not gathered	Yes	
Reflexivity	**Has the relationship between researchers and participants been adequately considered?** - Yes in terms of how they relate to the participants and their views	Yes	A

	Do the researchers reflect on their personal viewpoints and experience that they bring to the research setting? – They consider their intersectionality of being psychologists and that they are in support with climate strikes. They talk about reflecting on their involvement in the issues but do not expand on what their involvement entails. They explicitly talk about how they relate to the climate crisis and how this differed in the youth's account and how they tried to keep the youth's account live and not tainted by their different experiences.	Yes	
How valuable or useful is the research?	**Does the research add to knowledge, or increase the confidence with which existing knowledge is regarded?** **Is there discussion of how findings relate to wider theory; consideration of rival explanations?** **What are the implications for policy and practice – how is it 'fit for purpose'?** - Engaging in climate activism can support youth's development and personal growth - Egalitarian collective action is more likely to bring about a shared agency than in hierarchically structured actions and is thus better for sustainable social change - In order to cope with the 'negative' aspects of activism, activists found focusing on small steps and focusing on collective, as opposed to individual action, helpful. For burnout taking time out from activism and limiting amount of time spent on actions was necessary.	Yes Yes	A
Ethics	**How have ethical issues been taken into consideration (eg consent, confidentiality, anonymity, distress to participants)?** Yes: - Approved by their ethics committee, so can assume parameters of ethics have been met even if not explicitly stated within the write up. - Participants given information on study, as well as their participant rights - Consent, especially for minors was given due consideration		A

	- Anonymity was ensured by random assignment of letters in place of real names No: - Potential distress of interview content not considered by researchers - Where the data is stored	
Total		A

Table A3.3

Attree and Milton's Quality Appraisal Checklist for Chang (2022)

Methodological area	Key criteria – comments	Yes/No	Quality score
Background of research	**Source of funding (relationship to findings?) –** This work received financial support by the Ministry of Science and Technology **Name of study –** Climate strike or not? Intersectionality of age and culture encountered by young climate activists in Taiwan		A
	Is the connection of the research to an existing body of knowledge or theory clear?	Yes	
Aims and objectives	**Is there a clear statement of the aims of the research?**	Yes	B
	Are the research questions clear?	No	
	"This study situates the climate strike movement in a society that puts stress on academic performance and diplomaism, discussing the structural challenges that young climate activists encountered from within an intersectional framework. The study further explores young activists' political resistance to and negotiation of these challenges, as well as their perspectives on the notion of global climate strikes. It is hoped that these findings will enrich the		

	literature on intersectionality regarding East Asian childhood." The goal for this research could do with further clarity, as well as explicit research questions being named. However it has been highlighted why this research is thought important and its relevance.		
Context	**Is the context or setting adequately described?**	Yes	A
Appropriateness of design	**Are qualitative methods appropriate?**	Yes	A
	Is the research design appropriate to address the research aims? Is it 'fit for purpose'?	Yes	
Sampling	**Sampling strategy –** Snowballing and also recruiting through the "Fridays for Future Taiwan" Facebook Group		A
	Is the sampling strategy appropriate to address the research aims?	Yes	
	Criteria used to select the sample – Young climate activists, who were either initiators or participants of the FFF movement in Taiwan in 2019		
	Does the sample include an adequate range of possible cases or settings? Mixture of age and genders	Yes	
	Sample size – 15		
	Is the sample size justified? - Small sample reflects low number of population due to difficulties of creating such organisations in Taiwan.	Yes	
	Did any participants choose not to take part in the study? - Not mentioned so unknown and thus assumed to be no	No	
Data collection	**How data were collected, and by whom? –** "all interviews were audio-recorded and transcribed" however no further information is provided. Who conducted the interviews? Interview guide? In person or online etc? how long they lasted?		C

	Is the form of data clear (e.g., tape recordings, fieldnotes, etc)?	Yes	
	Were any methods modified during the research process? – Not stated so assume no	No	
	Does data collection involve triangulation (of multiple methods or data sources)?	No	
	Is there evidence that data collection was systematic (e.g., an 'audit trail')?	No	
Data analysis and findings	**How was the analysis carried out? –** Braun and Clarke's (2006) Thematic Analysis however this is not elaborated upon apart from stating methodology		B
	Are sufficient data presented to support the findings?	Yes	
	How were data selected for inclusion in the report? - Not stated apart from following the above analysis methodology.		
	Are data annotated with demographic details of contributors?	Yes	
	Do the findings directly address the research question? - NB the research aims since no questions were stated.	Yes	
	Does the research privilege subjective meaning? - Hasn't stated intention within analysis however stays close to the data	Yes	
	What steps were taken to demonstrate the trustworthiness of the findings (e.g., negative cases, respondent validation)? – Cases were described where 'activism' could and did take place with school support, not just scenarios where the school and parental pressure made it impossible.		
	Have the limitations of the study and their impact on the findings been taken into account? - Acknowledged that other intersectional issues such as gender, race and class	Yes	

	could not be included in the focus of this paper but would be worth investigating. No other limitations were identified.		
Reflexivity	**Has the relationship between researchers and participants been adequately considered?**	No	C
	Do the researchers reflect on their personal viewpoints and experience that they bring to the research setting?	No	
How valuable or useful is the research?	**Does the research add to knowledge, or increase the confidence with which existing knowledge is regarded?**	Yes	A
	Is there discussion of how findings relate to wider theory; consideration of rival explanations?	Yes	
	What are the implications for policy and practice – how is it 'fit for purpose'? - Highlights that climate strikes might not be the best method of climate activism in East Asia, where children encounter similar intersectional disadvantages. - Having the agency to consider local context and what could be implemented instead of climate strikes could be useful for other places with similar cultures to Taiwan that have youth with an appetite for climate activism.		
Ethics	**How have ethical issues been taken into consideration (e.g., consent, confidentiality, anonymity, distress to participants)?** Yes - Ethics approval granted by National Taiwan University, so can assume parameters of ethics have been met even if not explicitly stated within the write up. - Consent gained from participants and guardians when participants were minors No - No comment on how the research was explained to participants - No consideration of the possibility of distress caused from discussing topics like the CEE and cultural resistance to activism		B

	- No consideration of where the audio recordings were stored and how long for - Don't know if participant identities have been protected	
Total		B

Table A3.4

Attree and Milton's Quality Appraisal Checklist for Fisher (2016)

Methodological area	Key criteria – comments	Yes/No	Quality score
Background of research	**Source of funding (relationship to findings?) –** Not mentioned		A
	Name of study – Life Trajectories of youth committing to climate activism		
	Is the connection of the research to an existing body of knowledge or theory clear?	Yes	
Aims and objectives	**Is there a clear statement of the aims of the research?**	Yes	A
	Are the research questions clear? - "To explore the research question of the study – How do youth climate activists conceptualize their life trajectories of climate activism?"	Yes	
Context	**Is the context or setting adequately described?**	Yes	A
Appropriateness of design	**Are qualitative methods appropriate?**	Yes	A
	Is the research design appropriate to address the research aims? Is it 'fit for purpose'? - Provides further explanation for 'exploratory life memory research' and how this underpinned the analysis of the data.	Yes	
Sampling	**Sampling strategy –** Voluntary response sampling was used, whereby invites were sent out to seven electronic mailing		A

	lists that were concerned with the international youth climate movement		
	Is the sampling strategy appropriate to address the research aims?	Yes	
	Criteria used to select the sample – - Those who feel comfortable conversing in English - Those who self-identify as an activists and upon interview had to meet the researcher's definition of activism (engaging in "actions with collective and political aims") - Those who self-identify as a youth, which depends on their countries political and historical context so to culturally categorise youth per country		
	Does the sample include an adequate range of possible cases or settings?	Yes	
	Sample size – 17		
	Is the sample size justified?	No	
	Did any participants choose not to take part in the study? - Some were concerned the interest was for journalistic purposes as opposed to research. This was clarified in the consent process after such concerns were raised.	Yes	
Data collection	**How data were collected, and by whom? –** All but two semi-structured interviews were conducted by the researcher via an internet based instant messenger service, two were conducted via an internet-based voice chat.		A
	Is the form of data clear (e.g., tape recordings, fieldnotes, etc)? - text from webchats and 2 transcribed from web audio	Yes	
	Were any methods modified during the research process? – Two participants asked to use voice chat as opposed to webchat	Yes	
	Does data collection involve triangulation (of multiple methods or data sources)? - Describes using memos and field notes to support his interpretation of the interview data	Yes	

	Is there evidence that data collection was systematic (e.g., an 'audit trail')?	Yes	
Data analysis and findings	**How was the analysis carried out? –** Corbin & Strauss' 2008 Grounded Theory is referenced, whereby they created a coding scheme, synthesised the coding scheme with inductive open coding and used the codes to generate themes. Coding was completed iteratively. Memos were used to highlight coherence and exceptions to the stories and the themes.		B
	Are sufficient data presented to support the findings?	Yes	
	How were data selected for inclusion in the report? The researcher organised their interpretations "around the ways in which participants constructed the meanings and functions of experiences and how they represented the nature of the process of their committing to climate activism".		
	Are data annotated with demographic details of contributors? There is a map of participants' country and age and within the text results Fisher references the country the participant is from	Yes	
	Do the findings directly address the research question?	Yes	
	Does the research privilege subjective meaning?	Yes	
	What steps were taken to demonstrate the trustworthiness of the findings (e.g., negative cases, respondent validation)? – A draft of the paper was sent to participants, giving them the opportunity to comment. One participant did and following a conversation, alterations were made to the draft in light of their criticisms. Furthermore, conversations were had with colleagues to see whether their interpretations resonated. Fieldnotes were also used to		

	increase trustworthiness and quality of the data interpretations.		
	Have the limitations of the study and their impact on the findings been taken into account?	No	
Reflexivity	**Has the relationship between researchers and participants been adequately considered? -** Reports that they had no previous contact.	Yes	B
	Do the researchers reflect on their personal viewpoints and experience that they bring to the research setting? - Stated that they did some "reflecting on my assumptions and relationship with the research, particularly given my own experiences as a climate activist", however they didn't elaborate on these assumptions and positions.	Yes	
How valuable or useful is the research?	**Does the research add to knowledge, or increase the confidence with which existing knowledge is regarded?**	Yes	A
	Is there discussion of how findings relate to wider theory; consideration of rival explanations?	Yes	
	What are the implications for policy and practice – how is it 'fit for purpose'? - Climate change must be thought of as both a social justice and environmental issue, since polarisation of the two can lead to barriers to engagement in climate activism - Provides suggestions for educators and programme leaders to support affirming youths' experiences and encouraging to seek affinities amongst themselves within those experiences, so to support affinity politics and citizens' engagements in associated initiatives. - Strategies for engaging people in climate change shouldn't just focus on personal and immediate framings since people's coming to climate activism is far more dynamic. It's important not to over simplify climate change as a means to support youth engagement. - Educators might have a role across the life course to support commitment which is not fixed but flexible.		

Ethics	**How have ethical issues been taken into consideration (e.g., consent, confidentiality, anonymity, distress to participants)?** Yes: - Fisher references the consent process I regard to "I clarified this confusion in the consent process to make sure all participants knew the interviews were for research purposes" however this is all that was mentioned No: - It is not stated whether ethical approval was granted - Consent, especially for youth, has not been elaborated upon, nor has confidentiality, anonymity etc. - Are the names provided pseudonyms or the participants actual names? - Despite the youth being involved in climate movements, no consideration was given to the potential impacts of the interviews. - How was data stored?	D
Total		B

Table A3.5

Attree and Milton's Quality Appraisal Checklist for Lindemer (2023)

Methodological area	Key criteria – comments	Yes/No	Quality score
Background of research	**Source of funding (relationship to findings?) –** The study received funding from the Grantham Centre for Sustainable Futures at The University of Sheffield, which is where the researcher is working and researching. **Name of study –** The costs of climate activism for medical professionals: a case study of the US, the UK and Germany		A
	Is the connection of the research to an existing body of knowledge or theory clear?	Yes	

Aims and objectives	**Is there a clear statement of the aims of the research? -** "I explore these costs through a case study of the perspectives and experiences of medical professionals involved in climate activism."	Yes	A
	Are the research questions clear? - "how medical professional climate activists understand climate change; how they give meaning to engaging in climate activism; and, how they understand their effectiveness in doing so."	Yes	
Context	**Is the context or setting adequately described?**	Yes	A
Appropriateness of design	**Are qualitative methods appropriate?**	Yes	A
	Is the research design appropriate to address the research aims? Is it 'fit for purpose'?	Yes	
Sampling	**Sampling strategy –** multimodal approach which included contacting specialist groups (medical organisations that are formed around climate change), attending community calls and online networks used by medical climate activists, and contacting medical climate activists on social media. Snowball sampling was conducted through those who had been recruited and requesting access to their professional networks.		A
	Is the sampling strategy appropriate to address the research aims?	Yes	
	Criteria used to select the sample – medical professional climate activists from a diversity of sites, seniorities and specialities. Medical professionals were defined a medically qualified doctors, in line with the World Medical Association's use of the term physician, as well as advanced medical students pending qualification. For climate activism they used Garcia-Gibson's definition whereby climate activism which involves activism such as advocacy, organisational change efforts, protests and direct action.		

	Does the sample include an adequate range of possible cases or settings? - Ethnicity, specific age and gender not provided. However, participants come from a range of western countries and different medical specialisations	Yes	
	Sample size – 20		
	Is the sample size justified? "Interviews were conducted in sets of ten; after the tenth interview, I assessed whether new themes emerged across the last three interviews. If no new themes emerged, recruitment ceased"	Yes	
	Did any participants choose not to take part in the study? - This is not stated so assumed to be no	No	
Data collection	**How data were collected, and by whom? –** semi-structured interviews online via google meets which were then transcribed. Each interview lasted approximately 60 minutes. Not explicit as to who carried out the interviews but likely the researcher		A
	Is the form of data clear (e.g., tape recordings, fieldnotes, etc)?	Yes	
	Were any methods modified during the research process? – Due to COVID-19 pandemic and associated challenges of recruiting interviewees, an antecedent survey was introduced to support recruitment	Yes	
	Does data collection involve triangulation (of multiple methods or data sources)?	No	
	Is there evidence that data collection was systematic (e.g., an 'audit trail')?	Yes	
Data analysis and findings	**How was the analysis carried out? –** Referenced Braun and Clarke's thematic analysis however more step by step clarity could have been provided.		B
	Are sufficient data presented to support the findings?	Yes	

	How were data selected for inclusion in the report? Not mentioned		
	Are data annotated with demographic details of contributors?	No	
	Do the findings directly address the research question?	Yes	
	Does the research privilege subjective meaning?	Yes	
	What steps were taken to demonstrate the trustworthiness of the findings (e.g., negative cases, respondent validation)? – Different levels of engagement with activism were presented with differing views.		
	Have the limitations of the study and their impact on the findings been taken into account?	Yes	
Reflexivity	**Has the relationship between researchers and participants been adequately considered?**	No	C
	Do the researchers reflect on their personal viewpoints and experience that they bring to the research setting?	No	
How valuable or useful is the research?	**Does the research add to knowledge, or increase the confidence with which existing knowledge is regarded?**	Yes	A
	Is there discussion of how findings relate to wider theory; consideration of rival explanations?	Yes	
	What are the implications for policy and practice – how is it 'fit for purpose'? - Suggestions as to how to mitigate for adverse consequences of climate activism are highlighted (e.g. framing activism in terms of health) - Identifies the ostracization that medical climate activists can face and the profession needs to better understand the costs of climate activism so to support professional working relationships		
Ethics	**How have ethical issues been taken into consideration (e.g., consent, confidentiality, anonymity, distress to participants)?**		A

	Yes: - Ethics was granted by the Research Ethics Committee of the Department of Sociological Studies, the University of Sheffield, so can assume parameters of ethics have been met even if not explicitly stated within the write up. - Participant information sheets and separate consent form was made available to participants prior to their taking part to ensure informed consent and that their participation was voluntary - Ensured participants would be unidentifiable, by removing identifiable information No: - Doesn't consider how the interview topic could cause distress participants and how to manage this - Data storage	
Total		B

Table A3.6

Attree and Milton's Quality Appraisal Checklist for Martiskainen et al (2020)

Methodological area	Key criteria – comments	Yes/No	Quality score
Background of research	**Source of funding (relationship to findings?) –** The research was partly supported by the University of Sussex Business School Research Excellence Award for Emerging Scholars 2019 and the Trond Mohn Foundation and the University of Bergen – Equinor Akademia Agreement **Name of study –** Contextualizing climate justice activism: knowledge, emotions, motivations and actions among climate strikers in six cities **Is the connection of the research to an existing body of knowledge or theory clear?**	Yes	A
Aims and objectives	**Is there a clear statement of the aims of the research? -** "To explore contemporary environmental and climate activism, our study is based on original, comparative and multi-sited	Yes	B

	field research undertaken during two days of climate strike action in September 2019…Our aim was to collect evidence to formulate a picture of the protesters' knowledge, emotions, motivations, and actions in relation to climate change, and their key messages on the strike day."		
	Are the research questions clear? - The goal for this research could do with further clarity, as well as explicit research questions being named. However it has been highlighted why this research is thought important and its relevance.	No	
Context	**Is the context or setting adequately described?**	Yes	A
Appropriateness of design	**Are qualitative methods appropriate? -** Research seeks to highlight the actions and subjective experiences of the participants.	Yes	A
	Is the research design appropriate to address the research aims? Is it 'fit for purpose'? - They justify their design: "Tapping into the expressed psyche and emotions of environmental protesters during a climate strike can thus provide a window of empirical insight into an important subject with relatively little research on it"	Yes	
Sampling	**Sampling strategy –** opportunity sampling, whereby onsite researchers approached people who were attending the strike during the strike		B
	Is the sampling strategy appropriate to address the research aims?	Yes	
	Criteria used to select the sample – in attendance at a climate strike and willing to take part following informed consent		
	Does the sample include an adequate range of possible cases or settings? - Unknown due to not collecting demographic details to protect protesters identity (despite taking photographs of strikers who consented for	?	

	researchers to do so). They sought to ensure a diverse response set but cannot guarantee this.		
	Sample size – 64		
	Is the sample size justified?	No	
	Did any participants choose not to take part in the study? - This is not stated so cannot be commented upon. However it is plausible that many strike attendees declined to take part in this research, since 64 interviews were held from an estimated total of 922,420 attendees across the 6 strikes	No	
Data collection	**How data were collected, and by whom? –** On site researchers conducted 'mobile interviews' following a structured approach lasting ten to twenty minutes during the climate strike. Six interviews were conducted after the strike over the phone.		A
	Is the form of data clear (e.g., tape recordings, fieldnotes, etc)? Digital recordings, transcribed verbatim	Yes	
	Were any methods modified during the research process? – Not stated so assume no and nothing to report here	No	
	Does data collection involve triangulation (of multiple methods or data sources)? - Interviews, field observations, photos of the climate strike landscapes	Yes	
	Is there evidence that data collection was systematic (e.g., an 'audit trail')?	Yes	
Data analysis and findings	**How was the analysis carried out? –** Thematic qualitative approaches of Braun and Clarke (2006), Savin-Baden and Howell Major (2013). The step-by-step process they undertook is documented enabling replication. They also had a conceptual framework guiding their analysis.		A
	Are sufficient data presented to support the findings?	Yes	

	How were data selected for inclusion in the report? The authors chose particularly relevant or revelatory quotes, citing where they were sourced from, to evidence each theme.		
	Are data annotated with demographic details of contributors? Limited due to what was collected, e.g. only location	Yes	
	Do the findings directly address the research question?	Yes	
	Does the research privilege subjective meaning? - However, it also employs frequency counting, so perhaps this takes a step back	Yes	
	What steps were taken to demonstrate the trustworthiness of the findings (e.g., negative cases, respondent validation)? – Negative cases, multiple coders,		
	Have the limitations of the study and their impact on the findings been taken into account?	Yes	
Reflexivity	**Has the relationship between researchers and participants been adequately considered?**	No	C
	Do the researchers reflect on their personal viewpoints and experience that they bring to the research setting?	No	
How valuable or useful is the research?	**Does the research add to knowledge, or increase the confidence with which existing knowledge is regarded?**	Yes	A
	Is there discussion of how findings relate to wider theory; consideration of rival explanations?	Yes	
	What are the implications for policy and practice – how is it 'fit for purpose'? - Engaging in strikes provides purpose, a sense of unity and comfort, an antidote to climate anxiety and rage - Using narratives and stories might better engage people in climate change - From their depiction of protester identities this can inform analyses of the modalities of participation		

	- Questions around access and who is able to strike have been highlighted - Climate activism risks becoming normalised, so despite that being able to draw more people in it could also dilute the core of the movement and enhance inequitable practices - Being aware of the patterns of motivation and values to striking is crucial to inform the discourse around protest	
Ethics	**How have ethical issues been taken into consideration (e.g., consent, confidentiality, anonymity, distress to participants)?** Yes - Ethical approval granted by the University of Sussex Social Sciences & Arts Criss-Schools Research Ethics Committee, so can assume parameters of ethics have been met even if not explicitly stated within the write up. - Informed consent prior to mobile interview, so participants were told about the study and research - All participants given the opportunity to maintain anonymity - Transcripts were given a unique identifier No - Doesn't highlight how informed consent was different for children and minors who the strikes were geared towards - They didn't want to collect demographic data to protect protester identity but they did take photos of protestors with consent	B
Total		B

Table A3.7

Attree and Milton's Quality Appraisal Checklist for Roy & Ayalon (2023)

Methodological area	Key criteria – comments	Yes/No	Quality score
Background of research	**Source of funding (relationship to findings?) –** The research was supported by Israel Science Foundation under grant number 217/20.		A

	Name of study – They did not know what they were doing: Climate Change and Intergenerational Compassion		
	Is the connection of the research to an existing body of knowledge or theory clear?	Yes	
Aims and objectives	**Is there a clear statement of the aims of the research? -** "we aim to explore how climate activists of different ages and cultures express understanding and compassion toward members of different generations in the face of changing climate realities."	Yes	B
	Are the research questions clear? - There were no stated research questions	No	
Context	**Is the context or setting adequately described? -** More so into intergenerational relations and the role of compassion and the importance of this research focus	Yes	A
Appropriateness of design	**Are qualitative methods appropriate?**	Yes	B
	Is the research design appropriate to address the research aims? Is it 'fit for purpose'? Yes to both but not justified or explained as to why they chose this methodology	Yes	
Sampling	**Sampling strategy –** snowball sampling (circulating flyers via social media outlets as well as through references)		B
	Is the sampling strategy appropriate to address the research aims?	Yes	
	Criteria used to select the sample – self-identifying, English-speaking climate activists – if trying to capture different cultures then maybe variety of languages would have supported this aim?		
	Does the sample include an adequate range of possible cases or settings?	Yes	
	Sample size – 16		

	Is the sample size justified?	No	
	Did any participants choose not to take part in the study? Not stated so assume no	No	
Data collection	**How data were collected, and by whom? –** Semi-structured interviews conducted online lasting average of 54 minutes between January 2021 and July 2022.		B
	Is the form of data clear (e.g., tape recordings, fieldnotes, etc)? transcribed by professional transcribers and checked by researchers against audio recordings	Yes	
	Were any methods modified during the research process? – Not stated so assume no and nothing to report here	No	
	Does data collection involve triangulation (of multiple methods or data sources)?	No	
	Is there evidence that data collection was systematic (e.g., an 'audit trail')?	Yes	
Data analysis and findings	**How was the analysis carried out? –** Following Braun and Clarke's six-phase thematic analysis		B
	Are sufficient data presented to support the findings?	Yes	
	How were data selected for inclusion in the report? Throughout the coding and theme development process, potentially illustrative quotes were extracted from the data and have been used to substantiate the themes in the study.		
	Are data annotated with demographic details of contributors? In a table but not in text	No	
	Do the findings directly address the research question? –	Yes	
	Does the research privilege subjective meaning?	Yes	
	What steps were taken to demonstrate the trustworthiness of the findings (e.g., negative cases, respondent validation)? – Maybe multiple researchers involved in theme		

	generation but not explicit as to number. Showed difference of views but not explicit negative cases.		
	Have the limitations of the study and their impact on the findings been taken into account?	Yes	
Reflexivity	**Has the relationship between researchers and participants been adequately considered?**	No	C
	Do the researchers reflect on their personal viewpoints and experience that they bring to the research setting?	No	
How valuable or useful is the research?	**Does the research add to knowledge, or increase the confidence with which existing knowledge is regarded?**	Yes	B
	Is there discussion of how findings relate to wider theory; consideration of rival explanations?	Yes	
	What are the implications for policy and practice – how is it 'fit for purpose'? - Help counter ageist perceptions about different generations, encourage intergenerational cooperation and solidarity and reshape climate narratives		
Ethics	**How have ethical issues been taken into consideration (e.g., consent, confidentiality, anonymity, distress to participants)?** Yes - Research was approved by the Bar-Ilan University's research ethics committee, so can assume parameters of ethics have been met even if not explicitly stated within the write up. - Informed consent No - Anonymity was not used for all participants, only if this was specifically requested (only 3 participants anonymised) - Didn't state how they considered potential distress to participants - Didn't state how younger activists gave consent - Doesn't state how participants were told more details about the research, e.g. PIS, nor debrief		B

Total	B

Table A3.8

Attree and Milton's Quality Appraisal Checklist for Ruiz-Junco (2011)

Methodological area	Key criteria – comments	Yes/No	Quality score
Background of research	**Source of funding (relationship to findings?) –** No financial support was received for the research, authorship or publication of this article		B
	Name of study – Losing Neutrality in Your Everyday Life: Framing Experience and Activist Identity Construction in the Spanish Environmental Movement		
	Is the connection of the research to an existing body of knowledge or theory clear?	Yes	
Aims and objectives	**Is there a clear statement of the aims of the research?**	No	C
	Are the research questions clear?	No	
	It is stated that: "I focus on three key identity construction processes: biographical identity integration, identity extension, and identity transformation. I begin by introducing the concept of biographical identity integration to describe how social movement participants interweave past personal experiences into a unifying biography that fits an activist identity…I subsequently examine *identity extension* and *identity transformation* among social movement participants" – however this is spoken about in the context of the setting of this research. Therefore clearer statement of this current research aims are needed with explicit research questions.		

Context	**Is the context or setting adequately described?**	Yes	A
Appropriateness of design	**Are qualitative methods appropriate?**	Yes	C
	Is the research design appropriate to address the research aims? Is it 'fit for purpose'? – hard to answer since no RQ. However appropriate for vague aims.	?	
Sampling	**Sampling strategy –** convenience and snowballing		B
	Is the sampling strategy appropriate to address the research aims?	Yes	
	Criteria used to select the sample – Member of AEU, specifically a climate activist group		
	Does the sample include an adequate range of possible cases or settings? – Provides basic info, equal men and women from different movements within the city. Despite stating that they gathered such info it has not been displayed per participant, only ranges spoken of.	Yes	
	Sample size – 10		
	Is the sample size justified?	No	
	Did any participants choose not to take part in the study? Not stated so assume no	No	
Data collection	**How data were collected, and by whom? –** Researcher conducted semi-structured interviews		B
	Is the form of data clear (e.g., tape recordings, fieldnotes, etc)? in-depth interviews and movement documents	Yes	
	Were any methods modified during the research process? – Unknown so assume no	No	
	Does data collection involve triangulation (of multiple methods or data sources)? – Transcripts, AEU official publications, movement pamphlets	Yes	

	Is there evidence that data collection was systematic (e.g., an 'audit trail')?	No	
Data analysis and findings	**How was the analysis carried out? –** A methodological strategy consistent with the postulates of grounded theory (Charmaz, 2000, 2001)		B
	Are sufficient data presented to support the findings?	Yes	
	How were data selected for inclusion in the report? Not stated.		
	Are data annotated with demographic details of contributors?	Yes	
	Do the findings directly address the research question? – There's no research question, so cannot really be answered but if considering the aforementioned vague aim then yes	Yes	
	Does the research privilege subjective meaning?	Yes	
	What steps were taken to demonstrate the trustworthiness of the findings (e.g., negative cases, respondent validation)? – Highlighting alternative and differing responses as well as similar ones across data accounts		
	Have the limitations of the study and their impact on the findings been taken into account?	No	
Reflexivity	**Has the relationship between researchers and participants been adequately considered?**	Yes	A
	Do the researchers reflect on their personal viewpoints and experience that they bring to the research setting?	Yes	
How valuable or useful is the research?	**Does the research add to knowledge, or increase the confidence with which existing knowledge is regarded?**	Yes	B
	Is there discussion of how findings relate to wider theory; consideration of rival explanations?	Yes	

	What are the implications for policy and practice – how is it 'fit for purpose'? - Contributed to literature on identity and social movements, highlighting how personal experiences and ones own personal narrative can sustain activism as well as: - "demonstrates the benefits of a conception of activist identity that transcends Jasper's *organizational* and *tactical* levels of movement identity"	
Ethics	**How have ethical issues been taken into consideration (eg consent, confidentiality, anonymity, distress to participants)?** Yes - "I obtained institutional review board approval for this study and the names of this organization and its members are pseudonyms." so can assume parameters of ethics have been met even if not explicitly stated within the write up. - Pseudonyms were used to protect confidentiality of the group and its members. No - Consent, informing participants of research and debrief, confidentiality, limitation of distress is not spoken about	B
Total		C

Table A3.9

Attree and Milton's Quality Appraisal Checklist for Shepherd (2002)

Methodological area	Key criteria – comments	Yes/No	Quality score
Background of research	**Source of funding (relationship to findings?) –** not spoken of **Name of study –** ANARCHO-ENVIRONMENTALISTS Ascetics of Late Modernity		A

	Is the connection of the research to an existing body of knowledge or theory clear?	Yes	
Aims and objectives	**Is there a clear statement of the aims of the research? –** Vaguely - "In this article, I have sought to illustrate the experiences of members of an anarcho-environmentalist1 group as they grappled with the difficulties of living up to their ideals both within their organization and in everyday life. have attempted to explain their commitment to personal change through Weber's(1968) sociology of religion"	Yes	C
	Are the research questions clear?	No	
Context	**Is the context or setting adequately described?**	Yes	A
Appropriateness of design	**Are qualitative methods appropriate?**	Yes	B
	Is the research design appropriate to address the research aims? Is it 'fit for purpose'? – Yes but there are no justification of the methods	Yes	
Sampling	**Sampling strategy –** Subjective, convenience sampling (i.e. approached specific group and conducted field work and following interviews with group members)		B
	Is the sampling strategy appropriate to address the research aims?	Yes	
	Criteria used to select the sample – member of an anarcho-environmentalist group		
	Does the sample include an adequate range of possible cases or settings? – Unknown	No	
	Sample size – 10		
	Is the sample size justified?	No	
	Did any participants choose not to take part in the study? Not stated so assume no	No	

Data collection	**How data were collected, and by whom? –** Interviews were taped and transcribed by the researcher		B
	Is the form of data clear (e.g., tape recordings, fieldnotes, etc)?	Yes	
	Were any methods modified during the research process? – Unknown so assume no	No	
	Does data collection involve triangulation (of multiple methods or data sources)? – Field notes, interview transcripts, articles and flyers written by the group	Yes	
	Is there evidence that data collection was systematic (e.g., an 'audit trail')? – Steps clearly marked	No	
Data analysis and findings	**How was the analysis carried out? –** Grounded theory analysis techniques, such as "method of constant comparison, the asking of generative and concept-relating questions, and systematic coding procedures"		C
	Are sufficient data presented to support the findings? Some sections greater than others	Yes	
	How were data selected for inclusion in the report? Not stated.		
	Are data annotated with demographic details of contributors?	Yes	
	Do the findings directly address the research question? – Yes in relation to above aim	Yes	
	Does the research privilege subjective meaning? – In some sections the illustration of participants experiences in their own voice is very clear, however in others the participants data is interspersed with prior research and theories perhaps not privileging the participants' voice enough.	Yes	

	What steps were taken to demonstrate the trustworthiness of the findings (e.g., negative cases, respondent validation)? – Negative cases		
	Have the limitations of the study and their impact on the findings been taken into account?	No	
Reflexivity	**Has the relationship between researchers and participants been adequately considered?**	Yes	A
	Do the researchers reflect on their personal viewpoints and experience that they bring to the research setting?	Yes	
How valuable or useful is the research?	**Does the research add to knowledge, or increase the confidence with which existing knowledge is regarded?**	Yes	B
	Is there discussion of how findings relate to wider theory; consideration of rival explanations? - Theory but not rival explanations	Yes	
	What are the implications for policy and practice – how is it 'fit for purpose'? - This research demonstrates the strong ideals and vocational nature of activism that previous research has not accounted for - Found that pursuing an ascetic strategy is a powerful antidote to despair. Bringing this ascetic strategy for future research could be useful.		
Ethics	**How have ethical issues been taken into consideration (e.g., consent, confidentiality, anonymity, distress to participants)?**		C
	No - It is not stated whether ethics approval was sought and approved. - Informed consent not clear - Not clear if participants aware of their research rights. - No mention of debrief - Consideration of participant distress not considered		
	Yes - Premise of study was explained to group and their permission for the researcher to go ahead was		

	granted, however it is not explicit whether this was informed consent. - pseudonyms used to maintain participant confidentiality	
Total		C

Table A3.10

Attree and Milton's Quality Appraisal Checklist for Vamvalis (2023)

Methodological area	Key criteria – comments	Yes/No	Quality score
Background of research	**Source of funding (relationship to findings?) –** no financial support was received. **Name of study –** "We're fighting for our lives": Centering affective, collective and systemic approaches to climate justice education as a youth mental health imperative.		A
	Is the connection of the research to an existing body of knowledge or theory clear?	Yes	
Aims and objectives	**Is there a clear statement of the aims of the research? –** Could be more explicit, e.g. "This paper explores educational opportunities that recognize the embodied consequences of climate injustice and inaction on youth mental health and well-being by centring the voices of three young climate justice activists (ranging in age from 16–20) within the Canadian context through a small-scale qualitative study….. A dimension of this study sought to understand how youth climate justice activists conceptualize and understand climate justice… An element of my study has explored how youth climate justice activists find meaning, purpose and hope in the climate crisis and inquires into the impacts of the climate crisis on their well-being"	Yes	B

	Are the research questions clear? – Some of the above could be considered rephrased research questions but it is not clear.	No	
Context	**Is the context or setting adequately described?**	Yes	A
Appropriateness of design	**Are qualitative methods appropriate?**	Yes	A
	Is the research design appropriate to address the research aims? Is it 'fit for purpose'? – Justification provided for the larger research project which is addressed in part in this paper	Yes	
Sampling	**Sampling strategy –** Snowball sampling		B
	Is the sampling strategy appropriate to address the research aims?	Yes	
	Criteria used to select the sample – Youth climate justice activists		
	Does the sample include an adequate range of possible cases or settings? – No but smallness explained, so too is lack of demographics so to protect participants identities. Two of the three were described as "racialized activists" which the author intended "would be "read" as youth of colour".	No	
	Sample size – 3		
	Is the sample size justified? – Acknowledged small sample isn't generalizable	No	
	Did any participants choose not to take part in the study? Not stated so assume no	No	
Data collection	**How data were collected, and by whom? –** Semi-structured interviews with the researcher and joint focus groups (with youth activists and teachers, though this paper only presents youth activist perspectives)		A

	Is the form of data clear (e.g., tape recordings, fieldnotes, etc)?	Yes	
	Were any methods modified during the research process? – Unknown so assume no	No	
	Does data collection involve triangulation (of multiple methods or data sources)? – Not for this paper	No	
	Is there evidence that data collection was systematic (e.g., an 'audit trail')? – Steps clearly marked	Yes	
Data analysis and findings	**How was the analysis carried out? –** "initially coded the transcripts in relation to dimensions of the overarching conceptual framework of the larger research project" and further iterative coding and theme development, specific steps stated but no named method identified		B
	Are sufficient data presented to support the findings?	Yes	
	How were data selected for inclusion in the report? Not stated.		
	Are data annotated with demographic details of contributors? – As much as author wanted to provide to protect anonymity	Yes	
	Do the findings directly address the research question? – well the aims that were given.	Yes	
	Does the research privilege subjective meaning? – Often "findings have been written to center on participants' voices as much as possible"	Yes	
	What steps were taken to demonstrate the trustworthiness of the findings (e.g., negative cases, respondent validation)? – Participants asked to review their transcripts.		
	Have the limitations of the study and their impact on the findings been taken into account? – Not properly	No	

Reflexivity	**Has the relationship between researchers and participants been adequately considered?**	No	B
	Do the researchers reflect on their personal viewpoints and experience that they bring to the research setting?	Yes	
How valuable or useful is the research?	**Does the research add to knowledge, or increase the confidence with which existing knowledge is regarded?**	Yes	A
	Is there discussion of how findings relate to wider theory; consideration of rival explanations?	Yes	
	What are the implications for policy and practice – how is it 'fit for purpose'? – Thoroughly considers how education might better support "youth to act thoughtfully and impactfully in transforming cultural, economic and political structures and systems that reproduce harm can be a way to nurture meaning, purpose and hope."		
Ethics	**How have ethical issues been taken into consideration (eg consent, confidentiality, anonymity, distress to participants)?** Yes - Participants consented to take part, all over age of 16 despite being youth - Pseudonyms, efforts made to protect anonymity No - Ethical approval not mentioned - Not stated how participants were explained the research or if any debriefing took place - Not stated where data kept - Did not consider how distress would be managed if it arose in interviews/focus-groups		C
Total			B

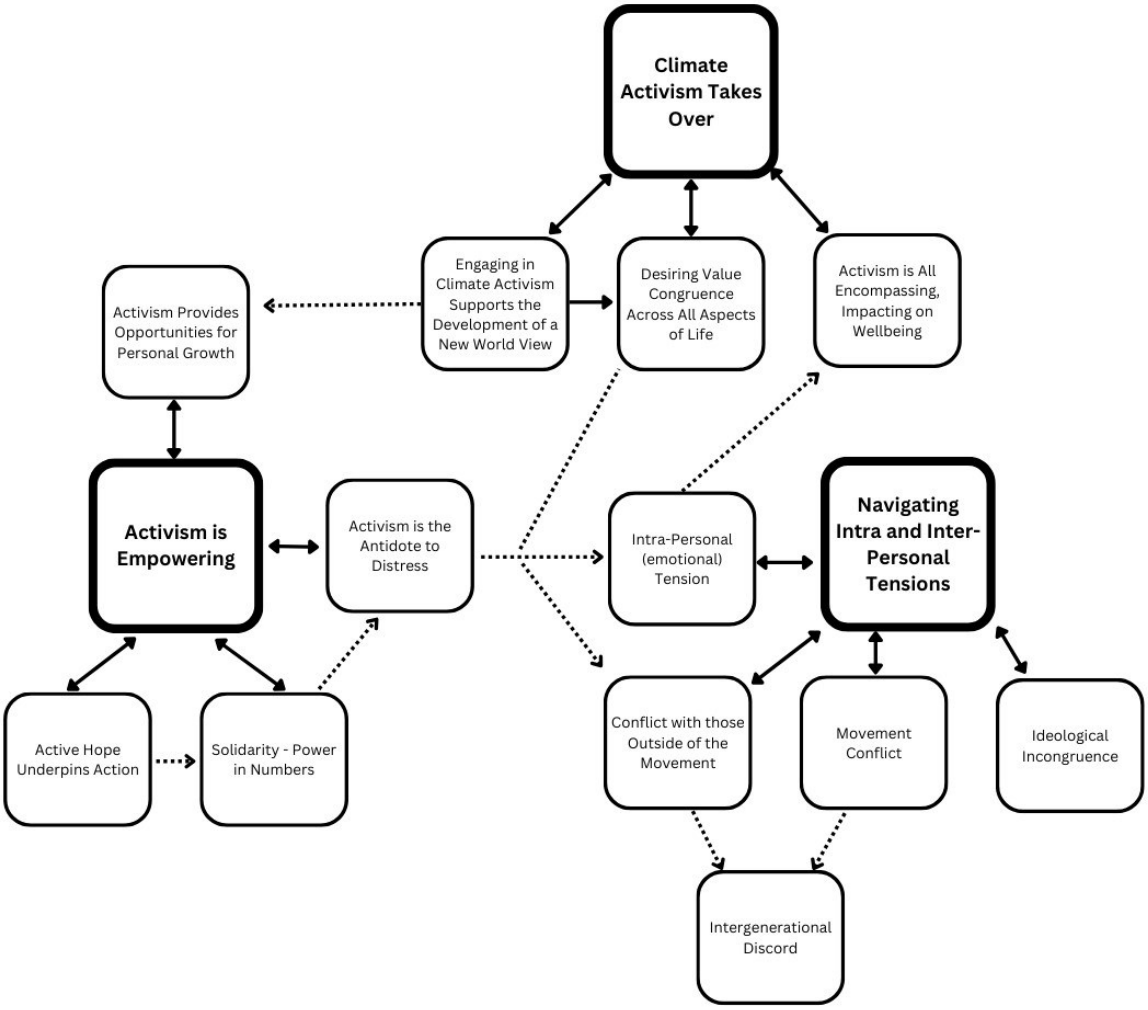
1.8.4 Appendix A.4. Thematic Development from Thomas & Harden's Thematic Synthesis

Stage Two - List of descriptive themes developed:

1. Activism costs activists aspects of their work +or livelihood +or themselves
2. Activism is a process of commitment
3. Activism takes over
4. Activism supports wellbeing and personal growth
5. Balancing despair and hope
6. Desiring value congruence
7. Disadvantages faced by those with less privilege + more intersectionality
8. Distressing emotions involved in climate activism
9. Engaging in activism dismantles previously held cognitive defences
10. Engaging in conflict internally and externally to the movement
11. Experiencing a sense of ethical responsibility
12. Experiencing intergenerational discontent
13. Managing resistance
14. Positive emotions +or psychological experiences involved in climate activism
    a. Energetic, powerful, empowering
    b. Success and accomplishment
    c. Hope
15. Solidarity is experienced as hopeful, empowering and supportive

Figure A4.1

Stage Three of Thematic Development – the Thematic Map of the Analytical Themes



Chapter 2 Imagining how clinical psychology can mitigate and adapt to the climate and ecological emergencies: A study using story completion methodology[10]

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[10] Please note that this chapter has been formatted as per the guidelines for PLOS Global Public Health Journal to which this paper will be submitted (see Appendix B.1 for guideline details). Despite the requirement for figures and supporting information to be uploaded separately, they will be included in this document for the purposes of thesis submission. Additionally, despite footnotes not being permitted they will be used here to support the thesis examiner navigate this document. Finally, line numbers are required for submission to this journal, however they have been redacted here to ease the reading for the examiner.

2.1 Abstract

The climate and ecological emergencies (CEE) are creating irreversible changes to our planet and life-sustaining systems. Threats are being experienced by individuals on the mental, physical and community health levels. Although psychologists have long had the skills-set necessary to conceptualise and support interventions for the challenges we face, it is only in recent years that psychological professional bodies are acknowledging the CEE. Therefore, there is no clear vision for the role of clinical psychology in the CEE. This study sought to create a vision of how clinical psychology can engage with the CEE as a means to mitigate and adapt to its deleterious impacts on mental health. Story completion methodology was used to create such visions. Forty-nine practitioner psychologists and climate activists completed online individual stories, and 28 individuals participated in co-creating stories, a novel application of story completion methodology. Thematic analysis was used to analyse the individual written stories and transcribed group stories. The possible roles for clinical psychology were developed across three main themes. 1. Acknowledgment is the First Step; here clinical psychology could acknowledge the root causes of the CEE and emotional responses to them. 2. Engagement in the CEE is Part of Creating a Role; here clinical psychology could develop a nature-based understanding of mental health, as well as supporting others to overcome cognitive defences and engage in the CEE. 3. Going Forth in Unison; here clinical psychology could work alongside changing societies to support people in living more simply, to develop community and nature-based practice, to support their own and others' climate activism, to become political and work towards social justice, to work in collaboration and to support people in developing their imaginative capabilities. These results offer ideas for the changing role of clinical psychology in the face of ever-increasing CEE.

2.2 Introduction

We are living in the Anthropocene, a period demarcated by irreversible changes to our Earth's life systems, caused by human activity, which puts human health, as well as the planet's health, at threat (1). The UK Government now recognises that "the climate crisis is a health crisis" (2). Furthermore, it is increasingly recognised that the continuity of human health is dependent upon the health of Earth's natural systems, which is known as 'planetary health' (3). The planetary health framework identified nine planetary boundaries which must be maintained for human activity to continue (4). Six of these have already been breached (5).

Consequently, threats to humanity are experienced on the mental, physical and community health levels (6). Increasing temperatures are linked to increasing rates of suicide (7), hate speech (8), and use of mental health services (9). Flooding, storms, and wildfires are associated with higher rates of depression, anxiety, and post-traumatic stress disorder, thought to be impacted due to displacement and loss of community (10-12). Further displacement from rising sea levels is also expected (13), and such climatic change impacts global food security (14, 15), risking increased conflicts (16).

The threats Earth faces are clear and are felt most by those who have contributed the least to inducing these changes (17, 18), known as the "double injustice" (19). This also includes the youngest in society, who can experience emotional distress due to their awareness of the CEE (20). Children are not safe due to the threats of climate change (21) and this may well be impacting on their relational attachments to adults (22). It is known that many young people in the UK are outraged by the government's inaction on the CEE (23) and experience a range of psychological responses in relation to the direct and indirect impacts of the CEE (24). Furthermore, parents and caregivers can experience moral injury when attempting to provide emotional and physical protection for their children on an Earth which is threatened (25).

Due to such significant direct and distal impacts on mental health (6, 24, 26), psychologists are deemed to be well placed to conceptualise the challenges that the CEE poses, as well as be part of the scientific developments of adaptation and mitigation (27-29). This is in line with other health professionals, who view their engagement with the CEE as an ethical and moral imperative (29-32). Furthermore, practitioner psychologists have public health responsibilities, to promote health and prevent ill health, as well as understand the wider determinants of health and wellbeing (33). Despite these prerogatives, for some clinical psychologists professional barriers challenge how they can express concern and act for planetary health within their professional identities (34).

Furthermore, it might be that individuals feel unable to talk about the CEE amid a "climate spiral of silence" (35, 36).

Arguably, this climate spiral of silence is now shifting, as UK psychology professional bodies are beginning to speak out about the CEE. The British Psychological Society now encourages all psychology professionals to engage with the climate and environmental crisis issues (37); the Division of Clinical Psychology encourages psychologists to engage in climate research amongst other active engagements (38); and the Association for Clinical Psychologists supports psychologists to take public direct action (39).

Mental health practitioners (MHPs) are seeing an increase of climate distress in their clinical practice (40). Crandon et al. highlight how MHPs should not only provide climate-attuned assessment and intervention on the individual and community level but also engage in non-clinical actions, such as providing training on climate distress, working to maintain workforce capacity, and helping communities to prepare and respond through advocacy and education (41). However, in practice psychologists are not engaged in climate change mitigation nor feel prepared to manage climate-related mental health presentations (42). Perhaps this is because there is no clear vision for how the profession of clinical psychology can work towards mitigating the deleterious impacts of the CEE on mental health.

Research within the field of energy and climate change is recognising the importance of utilising alternative methodologies which harness the imagination as a means to create new and different visions for the future (43, 44). Counterfactual worlds, where participants imagine alternative present day realities if different historical events had occurred, free participants from the present day "business-as-usual" by imagining alternative realities (45). Furthermore, radical imagination supports individuals to shape positive alternative future visions which can then be worked towards (46). Within climate-related psychology research, such alternative research methodologies help individuals move away from negative-saturated discourses towards active hope, i.e., being an active participant in bringing about change (47-49).

Story completion tasks have garnered interest as a data collection method from eminent qualitative researchers Braun and Clarke (50-53). Participants are presented with the first two sentences of a story (the story stem) and asked to write the rest of the story; their imagined response (54). This projective technique enables access to participants' underlying beliefs and values, especially around potentially divisive discourses, such as the CEE (55).

Frith and Braun have invited future research to consider the generation of collectively created stories (50). Collective story generation is reminiscent of collective action, a corner stone of the climate movement, including aspects such as interdisciplinary research (56) and climate assemblies (57). It is understood that only through imaginative collaboration will possibilities arise to support the complex survival of humanity (58). Therefore, this research will utilise individual and group-based story completion methodology to envision the role for clinical psychology in mitigating the deleterious impacts of the CEE on mental health.

2.2.1 Aims and Objectives

This research aimed to develop a vision of how clinical psychology could be engaging in adaptation and mitigation of the CEE as a means to uphold planetary, and thus public, health and to prevent planetary and public ill-health. This vision was gathered using story completion methodology, whereby participants created individual, as well as collaborative stories.

The research question is: What do practitioner psychologists and climate activists envision to be the role for clinical psychology in mitigating and adapting to the deleterious impacts of the CEE on mental health?

2.3 Methods

2.3.1 Ethics

Ethics approval was granted by the University of Southampton Ethics and Research Governance (79196).[11]

2.3.2 Phase 1: Story Stem Completion Task

2.3.2.1 Sampling and Recruitment

To be eligible to take part in the study participants had to be over 18 years of age, have access to the internet, self-identify as either a practitioner psychologist or a climate activist and endorse the statement that "the climate and ecological emergency impacts mental health". Practitioner psychologists include the protected titles of: Practitioner psychologist, Registered psychologist, Clinical psychologist, Forensic psychologist, Counselling psychologist, Health psychologist, Educational psychologist, Occupational psychologist and Sport and exercise psychologist, as regulated by the Health Care Professional Council (59). The study was advertised online via special interest groups for climate concerned psychologists and activists and at associated events, as well as via the school of psychology at the University of Southampton. Recruitment took place between July and December 2023.

2.3.2.2 Procedure

Study adverts contained a link to an online survey platform where participants were presented with the participant information sheet and consent form. After consenting to take part, participants were presented with two videos. The first explained the mental health impacts that the CEE are having on people, from the perspective of young people who are experiencing climate-related distress and ended with extracts of an open letter to government signed by 1,000 psychologists. This video was selected by the research team, as it was considered representative of the literature on climate change and climate-related distress. Thus, for psychologists taking part with less knowledge of this subject matter, this video would provide them with an expert-by-experience overview on the impacts of climate change on mental health. The second video explained the breadth of the role of a clinical psychologist, so that climate activists who were unaware of how clinical psychologists can

[11] See Appendix B.2 for ethics approval confirmation.

practice would have a greater understanding of the scope of clinical psychology. This video was scripted by the research team, with a lay person reading the script. Both videos were selected and created to ensure there was a shared basic level of knowledge between both participant groups across their differing areas of expertise prior to taking part in imagining a role for clinical psychology in the CEE.

Participants then completed the story completion task, in which they were presented with the following story stem:

It's 2070 and Ashley has reached old age. Ashley is reminiscing about how they were part of shaping and informing green practices in clinical psychology. This contributed to bringing human and non-human life back from the brink of collapse.

Participants were asked to:

Describe Ashley's journey and any developments within clinical psychology, based on the idea that human mental health is connected to the health of the planet.

There was a minimum character count (including spaces) of 2,500 for story stem responses, to encourage parity between written stories; this was based on prior piloting and feedback.

After providing an answer to the story completion task, participants provided demographic information (age, gender, country of residence and ethnicity), and completed two measures: the New Ecological Paradigm Scale (60) and the Values Orientation Scale (61). Finally, participants were presented with a debrief page.[12]

2.3.2.3 Participants

A total of 51 individual stories were recorded, two of which were deemed ineligible and thus removed. This was because one participant copied and pasted a short paragraph to make up the minimum character length requirement and the other participant wrote their story from a climate denial perspective, that the climate movement is alarmist (62), which contravened consent parameters; thus, both were removed. This resulted in 49 participants (36 females; 11 males; 2 other) for phase one. This is in line with sample size recommendations for story completion methodology (63). There were 22 practitioner psychologists and 27 climate activists, with a

[12] See Appendices B.3-B.8 for copies of the participant information sheet, consent form, measures, demographic questions and debrief sheet presented to participants during phase one.

participant mean age of 41.33 years old (*SD* = 19.89, range = 18-77). 82% identified as White-British. All participants were allocated pseudonym initials.

Two measures were used to gauge the participants' environmental beliefs and intentions. The Values Orientation Scale (61) resulted in participants scoring more highly for altruistic values (*M* = 6.06, *SD* = 0.95, range = 3.25-7.00) and biospheric values (*M* = 5.96, *SD* = 1.06, range = 2.75-7.00) in comparison to egoistic values (*M* = 1.44, *SD* = 1.01, range = -0.5 – 3.25). This suggests participants would be more likely to behave pro-environmentally if it were to benefit others and the planet, as opposed to themselves. Furthermore, the 15-item New Ecological Paradigm scale was used to measure the participants' ecological world view (60). Participants scored on average 4.21 (*SD* = 0.42, range = 3.13-4.93), which indicates that participants held high ecological world views, whereby they would consider humans to be part of the world's natural systems, as opposed to being superior to nature. Accordingly, this sample held strong environmental beliefs.

Table 2.1

Participant Demographics

Participant pseudonym initials	Practitioner Psychologist/ Climate Activist	Gender	Age	Country of residence	Ethnicity
LV	Clinical Psychologist	Female	77	UK	White - British
JI	Clinical Psychologist	Female	69	UK	White - British
KB	Climate Activist	Female	23	Indonesia	Javanese
UC	Trainee Clinical Psychologist	Female	31	UK	White - British
NZ	Trainee Clinical Psychologist	Male	31	UK	White - British
GT	Clinical Psychologist	Male	43	UK	White - British
SI	Clinical Psychologist	Female	37	UK	White - British
VN	Clinical Psychologist	Female	56	UK	White - British
KW	Trainee Clinical Psychologist	Female	26	UK	White - British
BM	Trainee Clinical Psychologist	Female	35	UK	White - British
CE	Trainee Clinical Psychologist	Female	29	UK	White - British
YH	Climate Activist	Female	70	UK	White - British
DA	Forensic Psychologist	Female	34	UK	Greek
NL	Trainee Educational Psychologist	Female	51	UK	White - other

HS	Trainee Clinical Psychologist	Female	27	UK	White - British
PI	Trainee Clinical Psychologist	Female	32	UK	White - British
FN	Climate Activist	Male	70	UK	White - British
LK	Trainee Counselling Psychologist	Female	27	UK	Mixed - White Asian
SC	Trainee Educational Psychologist	Other	32	UK	White and Southeast Asian
IE	Climate Activist	Female	66	UK	White - British
WP	Climate Activist	Female	62	UK	White - British
SN	Climate Activist	Female	62	UK	White - British
TE	Climate Activist	Male	67	UK	White - British
GV	Climate Activist	Male	61	UK	White - British
JA	Climate Activist	Female	18	UK	White - British
YS	Climate Activist	Female	75	UK	White - British
AW	Climate Activist	Male	64	UK	White - British
LS	Climate Activist	Female	59	UK	White - British
KF	Clinical Psychologist	Female	66	UK	White - British
BA	Trainee Educational Psychologist	Female	30	UK	White - British
WK	Clinical Psychologist	Female	36	UK	White - British
FB	Climate Activist	Male	71	UK	White - British
PL	Climate Activist	Female	44	UK	White - British
EP	Trainee Clinical Psychologist	Female	32	UK	White - British
DI	Climate Activist	Female	26	UK	White - British
SR	Educational Psychologist	Female	62	UK	White - British
AG	Climate Activist	Male	24	UK	White - British
UR	Climate Activist	Female	38	UK	White - British
RO	Climate Activist	Male	73	UK	White - British
KD	Educational Psychologist	Other	50	UK	Prefer not to say
NC	Climate Activist	Male	19	UK	Polish

GW	Climate Activist	Male	19	UK	White - British
FV	Climate Activist	Female	18	UK	White - British
AM	Climate Activist	Female	18	UK	Black - African Caribbean and White- British
OV	Climate Activist	Female	18	UK	Asian - Chinese
EA	Climate Activist	Female	19	UK	White - British
PA	Climate Activist	Female	18	UK	White - British
BL	Climate Activist	Female	21	UK	White - British
TW	Climate Activist	Female	19	UK	White - British

2.3.3 Phase 2: Group Workshop

A workshop was delivered as part of a British Psychological Society Climate Event[13] on the topic of "Creating a collaborative vision for a future of planetary health". In this session a group story completion task was held.

2.3.3.1 Sampling and Recruitment

Members of the British Psychological Society who had already signed up to this event were offered the opportunity to take part in the second phase of this study.

2.3.3.2 Procedure

Attendees were emailed an information sheet and consent form before the workshop, which explained that the workshop would entail using story completion methodology as a means to answer difficult questions about the CEE for future generations[14]. Attendees were informed that the written stories would be collected, and the verbal sharing of the stories would be audio recorded. It was made clear that consenting to take part in the research was not a prerequisite to attending the event. Attendees were free to consent or decline to taking part in the research without it affecting their engagement in the event.

All attendees granted informed consent on the day and were split into six groups of approximately five people per group. Each group was given the same story completion task as in phase one to

[13] See Appendix B.9 for further details of the workshop.
[14] See Appendices B.10-B.12 for workshop participant information sheet, consent and debrief forms.

complete. Participants were instructed to spend 15 minutes discussing their initial thoughts about how they would complete the story as a group, followed by 15 minutes capturing the co-created story on paper. A member of each group then orally shared the co-created story with the rest of the workshop, which was audio recorded. Written versions of the stories were collected and the audio recordings were later transcribed.

2.3.3.3 Participants

Twenty-eight individuals over the age of 18 consented and took part in the workshop. Due to the nature of the live research event, demographics could not be collected for everyone. Of the 13 who provided demographics the mean age was 50, 23% identified as male, 77% identified as female, 84% identified as White-British, 8% as White-Irish and 8% as White-other.

2.3.4 Data Analysis

Data analysis was conducted following Braun and Clarke's Reflexive Thematic Analysis (64) on both the individual and co-created stories together. A period of familiarisation was undertaken whereby individual stories were read and recorded so that they could be listened to. Co-created stories were also read and listened to. Once data was familiar the stories were coded line by line in relation to the research question, using NVivo software (65). These stages were conducted blind, whereby the status of the participant was not known so to support limitation of bias. However, it was known which stories were co-created since the first author conducted the workshop and analysis.

PPI input was sought for the coding relevance as well as theme development and iterative versions of thematic maps supported the development of the final three themes[15]. Throughout this process of analysis supervision was held with the other researchers to support how the data was made sense of. This helped to minimise the impact of personal bias and encouraged the development of diverse viewpoints to come through. These multiple processes supported the development of themes which were grounded in the data. Accordingly, quotes that best represented facets of the themes were chosen for such illustrative purposes. Additionally, since existing research and theory were utilised to aid the interpretation process and develop the analytical narrative, an analysis section will be presented as opposed to a traditional results section. This enables the results to be integrated with the wider literature it connects to and thus provides greater transparency for the interpretative work of the reflective thematic analysis undertaken (64).

[15] See Appendices B.13 and B.14 for code book and thematic map development.

Furthermore, a critical realist approach was taken within the analysis, whereby ontological realism is combined with epistemological relativism (66). This is because the first author, Georgia King (GK), considers the CEE to be a reality which cannot be avoided and one in which there are many different opinions as to how best to respond. It is understood that this positioning will likely have guided her engagement with the data. Thus, to support reflexivity within this process a reflective journal[16] was kept and utilised throughout the analysis process.

2.3.5 Positionality Statement

Knowing the realities of the CEE has led GK to spend the last four years being active in climate activist groups as well as climate psychology groups. Advocating for planetary health within the profession of clinical psychology is part of her conceptualisation of what makes her a psychologist; it was from this position that the data was analysed. GK is a white-British, cis-gendered, female, middle-class, abled bodied, trainee clinical psychologist. Thus she is researching from a position of relative privilege into an area where it is known that the CEE do and will continue to affect those who are least privileged the most (67). GK believes that research can be used to highlight such inequities and it is in a similar vein that social and climate justice informs her activism.

It is important to note that GK knew some of the workshop attendees from her professional networks.

[16] See Appendix B.15 for an excerpt of the reflective journal.

2.4 Analysis

Throughout the analysis process it became apparent that participants could not imagine the role of clinical psychology developing in isolation; the discipline of clinical psychology had to mirror the shifts that appear within society and thus the changing societal needs. As such, Voorhees and Perkins' ecological model (developed upon Bronfenbrenner's ecological systems model (68) to include a 'geosphere') (69) was used as a basis to map the themes across the interrelated and interacting layers which the participants envisioned[17]:

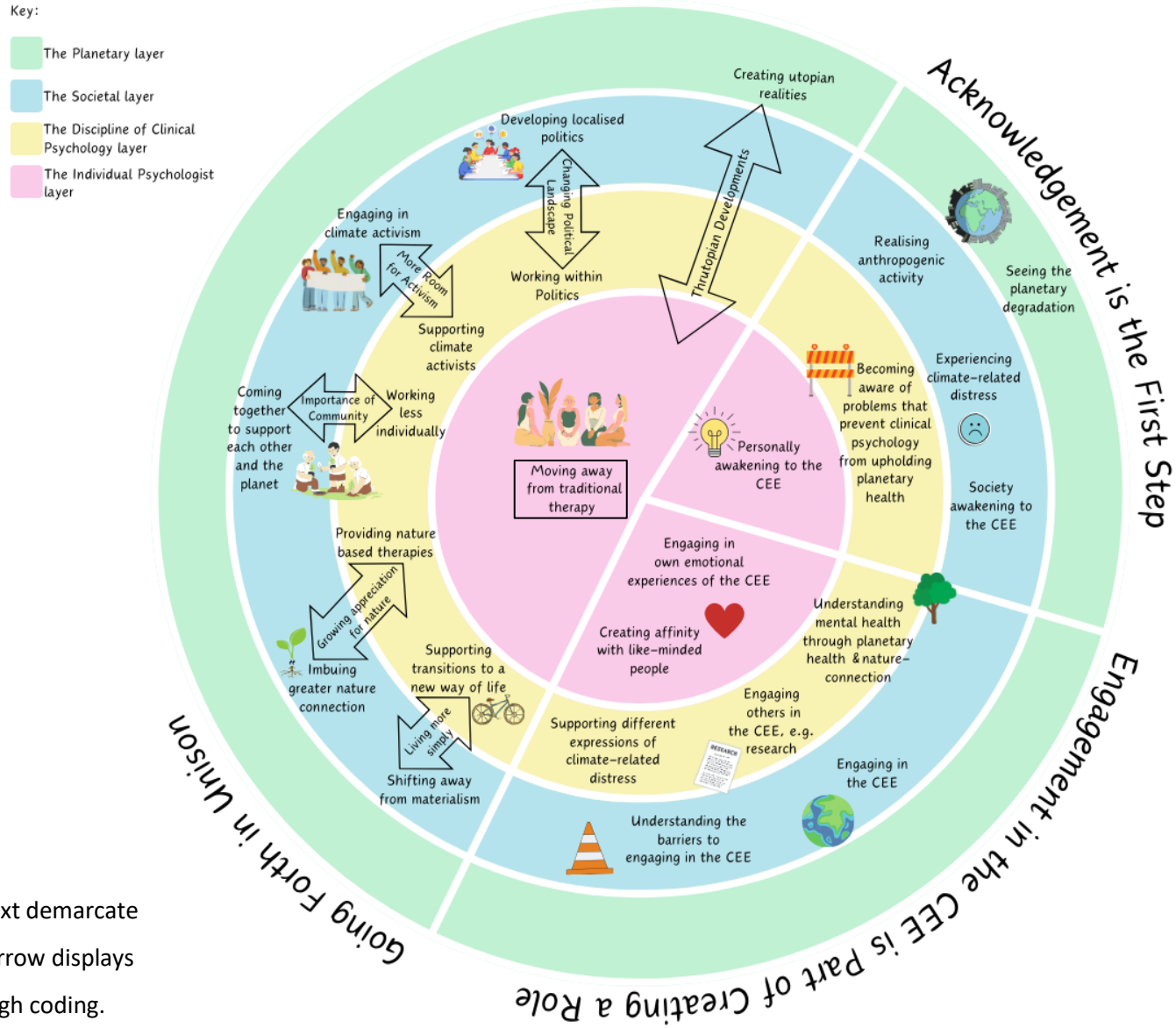
- The 'Individual Psychologist Layer' (demo-system) represents changes participants envisioned to individual psychologists' roles,
- the 'Discipline of Clinical Psychology Layer' (exo-system) represents changes participants envisioned to the discipline of clinical psychology,
- the 'Societal Layer' (macro-system) represents changes participants envisioned across society,
- the 'Planetary Layer' (geo-system) represents changes to the planet that participants envisioned.

Therefore, the map depicts GK's analysis of the stories that the participants told, showcasing a vision of changes within individual psychologists, clinical psychology, society, and the planet that participants imagined will enable clinical psychology to help mitigate against and adapt to the CEE. These changes have been conceptualised into three themes of what this vision entails: 'Acknowledgement is the First Step', 'Engagement in the CEE is Part of Creating a Role', and 'Going Forth in Unison'.

[17] See Appendix B.14 for thematic map iterations.

Figure 2.1

The Thematic Map Displaying the Three Themes in which Participants Imagined Interacting Changes Across the Four Layers



Note. The arrows and the box that contain text demarcate subthemes. Text that is not within a box or arrow displays pertinent theme content as developed through coding.

2.4.1 Acknowledgement is the First Step

This theme captures how most participants described an acknowledgement process to imagine what the role of clinical psychology could look like in a future where clinical psychology is supporting the mitigation of the deleterious impacts on mental health from the CEE. Participants described different acknowledgement processes for the individual clinical psychologist (hereon referred to as 'psychologist'), clinical psychology as a discipline, and society.

Within many stories, acknowledging the planetary degradation and the associated climate-related distress was a necessary step before participants could imagine clinical psychology's role. Participant AW describes how the enormity of the CEE caused disabling distress for the person described in the story stem (Ashley):

> *"Ashley felt overwhelmed and depressed. She didn't know what to do, everything seemed hopeless. She cried and cried. She stayed at home. She avoided the news. She considered suicide - surely that would be a way to avert climate disaster (fewer people) and also avoid seeing the world and all life slowly collapse into famine, wars, and migration on a scale previously unimaginable."*

Here participant AW expresses the emotional impacts that the CEE was indirectly having on Ashley by emphasising despair. Participant LS stressed the emotional impacts in a different but related way:

> *"By 2050 people…in the West [were] consumed with guilt at their hand in the destruction and pollution those 'needs' had caused and grief at the staggering loss of species, habitat and the natural world generally, it had become so very denatured."*

They highlight the shame associated with the social injustice of the global north's extractivism, as well as grief about what had been lost as a result of such practices.

These descriptions of emotional impacts reflect literature on climate distress, which is known to arise from awareness and experience of climate threats (70). Furthermore, grief and loss are considered understandable responses to ecological changes (71). These emotions were present in the stories through an acknowledgment of the loss that the CEE has engendered and from this a process of grief for what would no longer exist. Participant TE ended their story by honouring this process:

> *"A sadness had been how much was lost before the progress of change could be slowed. They [Ashley] remembered species that they had taken for granted in childhood that now no*

> *longer existed; the predictability of a gentler climate replaced by one that now needed much greater human care and respect."*

Whilst some participants acknowledged the planetary degradation and associated emotional impacts, others emphasised the hand society played in causing such planetary disconnect (otherwise known as anthropogenic activity). Participant LV described a spiritual dismemberment sparked by the industrial revolution "*Humans have always had a sense of connection with that which is furthest and deepest, and it is only when industrialisation and the worship of science took over that this was denied."* Furthermore, participant FB pronounced human 'advances' as isolating, detrimental to our mental health *"I believe the statistics would show that as we have isolated ourselves deeper into our concrete jungles with our 'superior' technological toys, rates of physical and mental illness have increased."* Here both participants capture the concept of nature disconnection and the impact on wellbeing. This concept has only recently been explored in the literature (72) and as participants suggested, negatively relates to psychological wellbeing (73).

Across the stories, participants also acknowledged problems that prevent clinical psychology from upholding planetary health. Participant JA questioned *"How could the medicalised, grey-blue, computer-screen form-filling medicated, researched, chemical, derivative field of our current mental healthcare system tend to something green, living, expansive, clenching, human, systems-wide, broken, ripped-howling, arching, caving red and beating?"* Here she is questioning passionately the inadequacy of the individualistic, bureaucratic, medicalised approach to mental health and whether it can comprehend the complexities of the CEE. A similar sense of regret was conveyed in that clinical psychology had situated itself within the medical framework as opposed to within nature, as participant NL described *"Maybe it is the 'clinical' in our title that made us feel that we had to stay pure and true to our scientific roots. White coats being more convincing than green leaves"*. Some participants explicitly named neoliberalism and colonialism as contributors to harmful therapeutic practice, for example "*Key to western neoliberal psychology was people being 'happy', with pain associated with injustices and adversity being reframed as 'symptoms' of disorders"* (participant GT). Here participant GT describes how root causes of pain have been invalidated in the pursuit of happiness. They went on to say:

> *"Key to the change was recognising how western psychology went hand in hand with exploitive neoliberalism and colonialism. How it supported decontextualization of distress and wellbeing, supported the increasing fragmentation and individualisation of global societies, and let world leaders off the hook as the political and structural inequalities associated with distress were reframed as individual problems"*.

These critiques highlight how for some participants it was important to articulate aspects of clinical psychology they deemed problematic before engaging in a new vision for clinical psychology.

Despite being asked to describe a utopia, some participants' stories were characteristic of a dystopia. Thus, it is considered that stories became stuck in the acknowledgement phase, where only the feared for future was described. Randall calls this a problem-saturated climate narrative, whereby people often project what they fear into future narratives of loss and terror, so that the present moment feels safe (74). However, not all stories got stuck there. Many moved onto solution-focused climate narratives (which are explored in the final theme); through an acknowledgement of the current and predicted CEE, a utopian and hoped for future could be imagined. This has been conceptualised by Read as a 'thrutopia', where narratives depict a process of getting from the present moment to a future where total climate chaos has been averted (75).

For psychologists, some stories depicted Ashley experiencing a personal awakening to the CEE and the uncomfortable practices of clinical psychology, conceptualised here as a process of acknowledgement. This phenomenon of 'Awakening' has been described by Buzzell and Edwards (76) as part of the 'Waking-Up Syndrome' where something occurs that breaks through previously operated cognitive defences. Participant VN described this as an age-based epiphany for Ashley:

> "*It had all come together when she hit 50, the desire to pull together everything that she knew…how often the touch point had been her client's connection, and the therapeutic connection with leaf, and sky and creatures more trustworthy than the human world"*.

Additionally, participant LS described a collective process of awakening by using collective pronouns to exclaim:

> *"Finally and thankfully the age of 'waking the fuck up' that was needed to change our behaviour, our over consumption, our complete addiction to energy and 'growth' and recognising the cancer it was for the planet".*

Here a movement of focus from the individual to the societal level can be seen when describing acknowledgement processes of awakening, demonstrating the presence of individual and societal awakenings.

Many models capture this acknowledgement process in different but related ways. Randall's research on ecological grief and loss narratives highlights the importance of speaking openly about such emotional responses, so that they can be worked through to facilitate adjustment and change (74). Pihkala's model of eco-anxiety and ecological grief depicts grief as a dynamic process, in which

the associated emotions must be engaged with in order to move on to action (77). Furthermore, Buzzell and Edwards depict stages of 'waking-up' which eventually leads to empowerment to act (76). These highlight the need to support the process of acknowledging loss and being able to grieve before action can occur, a trajectory that was prevalent across the stories. Thus, this theme testifies to the need to speak openly about loss.

Overall 'Acknowledgment is the First Step' captures the similar but different ways in which participants acknowledged the anthropogenic planetary degradation and the associated negative impacts on mental health from living in a world that that is disconnected from nature. Literarily, acknowledging such horrors was a necessary step before engagement in the CEE could take place across the stories.

2.4.2 Engagement in the Climate and Ecological Emergencies is Part of Creating a Role

Throughout the stories it became apparent that Ashley and their wider community went on a process of engagement with the CEE, which is what this theme exemplifies. Most stories could not contemplate engaging in possible change until the negative aspects of the CEE and present-day society and clinical psychology had been acknowledged, as outlined in the previous theme. This development from acknowledgement to engagement is much like the Stages of Change Model, whereby the acknowledgement theme mirrors the stage of 'Contemplation' and the engagement theme mirrors the stage of 'Preparation' (78). This process of engagement (or preparing) is represented as occurring across the different layers of the thematic map. Participants described new ways of understanding mental health, informed by the CEE and nature connection, across the individual psychologist, clinical psychology, and societal layers.

Within the stories clinical psychology began to recognise the importance of planetary health as a means to understand mental health. Participant NL describes this process of engaging in new ways of understanding:

> *"The interconnectedness of trees in a forest through mycorrhizal fungi was just beginning to be understood. The links between gut health and mental health were just being explored. We were just beginning to see how inextricably bound each of us is to the world around us."*

Here, participant NL's repetition of the phrase "just beginning" highlights a budding engagement in planetary health and appreciation for nature connection. Participant PI goes further, describing Ashley's understanding of planetary health, "*She knew at its basic level each human is made from the same compounds as the earth herself, and…realised societies sickness (egoism, disconnect, lack*

of consciousness) is related to the planets destruction." She depicts the unity of humanity and nature, where planetary ill-health causes mental ill-health in society. This association inversely reflects Zelenski and colleagues' research which found that fostering greater nature connection can support outward action for planetary health (79).

Participants described how engaging in the CEE with other like-minded individuals helped psychologists to feel less alone:

> *"They remembered how they started then to reach out to make connections with other psychologists planting their own seeds around the country…it was just a thrill not to feel so alone, so 'different' or the outsider of the profession, (yet again)"* (Participant VN).

This affinity with like-minded people did not have to be intra-professionally as participant IE explains *"I was living with students doing other courses and found we felt the same".* Regardless of where the affinity came from it seemed that connection with other like-minded people was an important step. As participant AW wrote:

> "*By talking about her feelings with other like-minded individuals, Ashley started to find some support. She was able to see a way forward, and what part she could play, she was less pessimistic about the earth's future. She felt hope for the first time in a long while"*.

Here they demonstrate how affinity guided engagement through providing emotional support.

Engagement with psychologists' emotional experiences of the CEE was described by other participants too. Participant BM suggested Ashley *"developed spaces in their professional world for other mental health clinicians to explore their feelings about climate change and to share how this was affecting the people they were working with."* There was also a recognition that the emotional impacts of the CEE did not just happen to their clients but to themselves, which implicitly questions the expert and individualistic nature of clinical psychology. As participant EA put it *"Almost every client she saw shared the same fears as her, she felt inadequate and lost. How could she help them when she couldn't help herself?"* Here, participants are depicting the relational dimensions of climate distress, which chimes with Adam and colleagues' research on relational resilience (80). They demonstrate the importance of relational resilience as a means to face and grow from trauma, like the CEE, and highlight the importance of collaborative transformation.

As well as an internal professional engagement there was also a drive for clinical psychology to engage others in the CEE. Participant FV describes how *"Ashley was a voice for people spreading awareness for a better planet"*. This external engagement came in many forms, from setting up a

climate awareness charity (participant AM), getting active on social media (participant EA) to using research as a means of engaging others. This relates to research by Thompson et al., who suggest psychologists are well placed to support young people in developing their knowledge on environmental challenges (81).

Within the stories a shift towards greater societal engagement in the CEE was depicted but not without resistance, *"By '23, societies around the world were beginning to realise that our endless cycle of consumption was bearing fewer and fewer fruits, but the weight of apathy still crushed many an attempt to affect real change"* (participant SC). Here, participant SC considers a defence mechanism, "apathy", as resisting possible transformation. Resistance can be considered a barrier to engagement, of which many more were present across the stories.

Participant KB described how Ashley *"encounters a lot of cases where she needs to deal with the scepticism of people towards the reality of climate change"*. It is known that scepticism is a psychological coping strategy that protects against fear (82). Haltinner and Sarathchandra go onto suggest that meeting scepticism with scaremongering headlines is ineffective for engagement, whereas empowerment narratives that tap into motivating emotions are more successful.

Other stories highlighted moral dilemmas and resulting confusion which can shroud pro-environmental behaviour. Participant PL depicted Ashely persuading her family *"to shell out for an electric car, which they said was too expensive, and relied on batteries using lithium from countries in the global south where local communities had been devastated by lithium mining"*. Here, the moral complexities of the CEE led Ashley's family to inaction. This echoes Gardiner's 'A Perfect Moral Storm', which suggests that temptations of doing nothing make humanity susceptible to moral corruption (83). This idea of moral corruption was captured by participant SN:

> *"Strangely enough lots of people in distress that Ashley worked with got this quicker than the people who still thought they were ok, people…who thought it was ok to travel by plane, or take a cruise, or drive everywhere, because they worked hard and they deserved it"*.

Here the moral corruption of pathologizing climate distress whilst going along with 'business as usual' is exemplified.

The stories suggest that it is clinical psychology's responsibility to engage in understanding moral corruption and the variety of emotional responses to the CEE so to better support different expressions of climate-related distress. Participant UC explains that:

> *"Ashley began to draw on their knowledge of psychological theories of responses to threat (and unhelpful responses such as avoidance and denial), social norms and behaviour change, to understand the forces at play in the denial and gaslighting of her clients' experiences".*

Here, she normalises a range of emotional responses to the CEE and highlights psychologists' capacity to support such varied responses. Taking it further, participant LV described Ashley's understanding of specific emotional responses:

> *"We saw that our particular contribution could lie in our understanding of how emotions could help to forge…connections; love of the natural world and our fellow humans - accepting that love entails responsibility for the beloved; grief for the irreparable damage that has been done; anger to spur action and provide courage to face a future without many of the comforts and distractions we had taken for granted."*

Here she highlights the validity of a variety of emotional responses to the CEE and how they can co-exist as they are all interrelated.

Overall, this theme captures the related but different ways in which participants described the process of engagement as necessary for creating a role for clinical psychology in the CEE. Participants imagined how clinical psychology internally engaged with the CEE and how they would externally support the engagement of others, including through overcoming barriers. They also depicted psychologists personally engaging with their own climate-related emotions and creating affinity with others.

2.4.3 Going Forth in Unison

Through the processes of acknowledgement of the CEE and engagement with it, captured by the two previous themes, a vision for a clinical psychology that works to mitigate and adapt to the deleterious impacts of the CEE on mental health was imagined in many participants' future world responses. Within the stories it was often hard to disentangle the role for clinical psychology from the changing developments within a more engaged society. Participant KD captured this idea:

> "*It wasn't in the end, the detail of WHAT we did" whispered Ashley, "which made the most difference....It was the WAY....Being part of the WAY meant forming good and genuine foundations in trust, truth and togetherness both within ourselves, with each other, and with the natural living earth, Pachamama, as a whole."*

Here they emphasise the importance of unity, phrased as "togetherness", as the means in which clinical psychology developed; it could not operate in its own silo.

Therefore, this superordinate theme of 'Going Forth' captures the different elements of this symbiosis of the developments within society, clinical psychology and the psychologist's role. The following seven subthemes attest to this: 'Living More Simply', 'Growing Appreciation for Nature', 'Importance of Community', 'More Room for Climate Activism', 'Changing Political Landscape and Relating to Leaders', 'Moving Away from Traditional Therapy', and 'Culminating in Utopian Visions'.

2.4.3.1 Living More Simply

This subtheme concerns the participants' conceptualisation of society shifting away from materialism and overconsumption to living more simply out of necessity. Alongside this, there were some suggestions that a psychologist's role could be supporting people to make transitions to a new way of life, on the individual level and more collectively within society by helping people 'really see' through critical consciousness raising.

Stories highlighted improved wellbeing from living more simply. Participant WK explained that *"Sacrifices were made - travel and leisure time are very different now, but wellbeing improvements far outweigh these costs"* and participant AW suggested that *"Everyone was happier - once they had adjusted to not having the latest phone, or new car, or clothes they would only wear once".* Here participants highlight the improved benefits to wellbeing, such as being "happier", from living a life with less luxuries. However, making the shift was imagined as not easy for everyone.

> *"She became vegan, and tried to persuade her parents to, but they said they were too attached to eating red meat…also they refused to stop flying, saying they wanted to travel the world before they were too old to see it"* (participant PL).

Here participant PL talks to the cultural myths of deserving meat consumption and a holiday abroad as preventing a simpler life. Some stories went further by imagining the end of capitalism, "*The patriarchy had started to crack and through the gaps a far more earth-based, respectful and reciprocal, relational way of being emerged in previously capitalist western societies"* (participant UR).

Participants' suggestions of improved wellbeing from less material wealth is reflected in the literature; it is known that individuals who hold materialistic value orientations are likely to have poorer wellbeing (84). Many psychologists and public health leaders have long warned against the ills of capitalism (85, 86). Moreover, psychologist Riemer and academic Harré suggest that in order

to support communitarian and sustainable living (which the stories pertain to), capitalist economies must be rethought and neoliberal politics abandoned (87).

The role participants attributed to psychologists was to support people in this lifestyle transition, *"We also found that our skills in helping people to make transitions, to think more flexibly, and let go of imperatives that were no longer useful or relevant in a time of great flux were useful"* (participant LV). Participant WK described the success of such therapeutic work, "*Psychologists across the world used values-based approaches to help people connect with things most meaningful to them…this meant that people naturally began to rely less on acquisition of resources, comparison, and ultimately led to the end of capitalist societies*". This proposition of a values-based approach chimes with Williams and Samuel's research (88). They have demonstrated the utility of Acceptance and Commitment Therapy in supporting climate distress, whereby people are encouraged to take value-led action on the individual and societal level.

Collectively, participant TE described the role for clinical psychology was to *"encourage others to see ("it's not what we look at that matters, it's what we see")"*. It was suggested across a number of stories that psychologists would engage in critical consciousness raising work, for example participant PI mused *"if we can increase people's awareness / consciousness, so too will we raise the consciousness of the planet and have a chance to bring civilisation and non human life back from the brink of collapse."* Participant UR took this further and imagined the success of critical consciousness work, *"Ashley felt relieved at having been able to influence this shift in collective consciousness and proud of all the ways they and many others had worked together to overcome harmful systems."* Here participants attribute critical consciousness work (developed by Freire (89) from Baro's liberation psychology (90)) as influential in bringing the planet back from the brink of collapse.

2.4.3.2 Growing Appreciation for Nature

This subtheme captures the developments within society towards greater nature connection which is also reflected on the level of clinical psychology as a discipline and the individual roles psychologists might take.

On the societal level many stories described a shift in culture towards upholding planetary health, *"we no longer believed that we owned these soils these lands but they in fact owned us and we were a part of the natural system, we nurtured the land and seas and rivers and skies and found great comfort"* (participant LS). There was an appreciation of the benefits to mental health through accessing green space, connecting with nature, becoming one with nature, practicing yoga outside, to participant BA explicitly stating *"People who supported community gardens, bought natural*

products and grew their own vegetables all appeared to have better mental health." This corroborates the evidence that nature connection is associated with greater levels of positive affect, such as happiness (91).

According to multiple responses, as society imbues nature connection it becomes more suitable and necessary for psychologists to use nature-based therapies. Interventions that were suggested included: *"empowering people to reconnect with the natural world"* (participant KF), *"gardening, growing vegetables, planting trees"* (participant EP), an *"outdoor mindfulness and movement group"* (participant CE), *"cooking together…therapeutic walks"* (participant DI). Participants foresaw that such approaches would improve mental health and planetary health. Participant AG spoke of green practices becoming the norm *"and with it the mental health crisis lessened"* and participant NL described that supporting clients to build relationships with nature saw an *"enormous shift in their wellbeing....and even better, in the markers of planetary health".* In this sub-theme the proposed futures chime with the evidence base that nature connection not only improves wellbeing but is also related to improved nature conservation (92). This supports participants' prior assertions that greater nature connection is good for human and planetary health.

As well as participants describing psychologists delivering nature-based interventions, they also suggested psychologists would *"deliver teaching and training to a variety of groups about the importance of nature connection and mental wellbeing"* (participant EP). It can be understood that due to the described societal shifts in appreciating planetary health and nature connection *"Workplaces started to encourage and even provide their staff with regular workshops and therapeutic practices"* (participant DI) and in schools *"They worked to educate children and young people to prevent 'eco-anxiety'"* (participant KW). These imaginings reflect research that shows how encouraging nature exposure for adults relates to well-being and pro-environmental behaviour (93) and that interacting with nature has positive mental health benefits for children and young people (94).

2.4.3.3 Importance of Community

This subtheme depicts the importance participants attached to the development of collectivist cultures within society, where people come together to support each other and the planet. Alongside this, it was commonly described how clinical psychology begins to work less individualistically and develops a more relational approach. Thus, there was a greater importance of community across all layers of the thematic map.

Solidarity of responsibility was highlighted across stories, for example *"we face the enormous environmental challenges of the late 21st century together"* (participant RO) and *"the task of survival was shared by all"* (participant LV). Communities came together though *"skill shares, repair cafes, swap shops…an eco elder [mentor]"* (participant UR), and Group 1 described that *"Food was shared, transport was shared, people opened their gardens, rich people gave"*. Hofstede argues that in collectivist societies "relationship prevails over task" (95)[(p.3)]. Therefore, the depicted relational coming together underpins why a *"culture of compassion flourished"* (participant WK). Within society stories described an increase of tactile affection, for example *"Suddenly people started to hug in the streets"* (Group 1). Such compassion was also present on the clinical psychology level, with participant VN explaining *"We found our common humanity in loving the natural world and brought it into our workplaces".* Here, participants are describing the care and affection that a relational approach entails.

The idea that clinical psychology could support community cohesion and functioning was present across many stories. Group 6 described that *"Neighbourhood psychologists become regular and normal parts of communities"* (see Sutton (96) for more information on Neighbourhood Psychologists). Furthermore, the concept that *"clinical psychologists…begin to develop a community psychology approach"* (Group 1) was described across stories. Participant JI imagined Ashley *"meeting attenders at local community voluntary sector organisations…hearing the stories of people there"* and participant UC expressed that this approach enabled Ashley *"to empower, rather than pathologise, these communities, to co-produce solutions to the emergency they had faced"*. Here participants are describing key principles of community psychology whereby Ashley comes alongside communities and empowers them in co-production for CEE adaptation and mitigation. This reflects research by Thompson et al., who suggest that community psychology offers a unique skill set to understand the interconnection between the many CEE faced today (not just climate change) and the wider social challenges, which are known to impede environmental action (81).

Group based psychological intervention was heavily referenced throughout the stories. Participant LV explained this was because *"that fitted better the ethos of the times"*. Specifically mentioned group models included *"Climate Fresk"* (Group 5), *"climate cafes"* (participant SI), and the *"Work that Reconnects"* (participant UR). Participant FN explained why community approaches will be important in a future which is fundamentally engaged in mitigating and adapting to the CEE.

> *"A lot of us were in need of the insights and support which this more committed approach could bring, helping us address feelings of guilt and shame, hopelessness and, by enabling us to deal with this collectively, rather than individually, many of came out the other side*

> *invigorated and with a deeper understanding of what we had to do in our often desperate struggles."*

Here, participant FN describes the strength that communities who are facing crises can bring to one another and the transformative power of such solidarity. This echoes Riemer and Harré's assertion, that community psychology can support the creation of such transformative change through core skills of collaborative approaches, empowerment and thorough understanding of systems (87).

Within these psychological community-based approaches participants described a fundamentally relational approach. For example, participant VN explained *"We found new ways of working through collaborating with our friends in other disciplines…We understood the importance of relationship, and connection, and attachment in a far deeper and richer way than that we had previously."* Here, they highlight the importance of transdisciplinary working and how a relational lens was brought to understand distress. Participant TE expresses this further:

> *"Every experience of connection with people, through therapeutic work, through sensing being part of a team or group of human animals, often like-minded, built a better sense of self; and in parallel with this connection with people, Ashley recognised and pushed for greater connection with the natural world."*

Here, participant TE describes a relational approach supporting personal growth, as well as a relational growth with others and the planet. Therefore, this relational approach spans the layers of the thematic map.

2.4.3.4 More Room for Climate Activism

The symbiosis of psychologists working within the societal cultural shifts permeates this subtheme and is captured by participant FN**:**

> ***"****And some of the deep capacity and resilience of our movement owed a lot to what we were able to work out with the support of the increasing numbers in psychology professions who were in active solidarity with our movement."*

Within the stories there was a societal movement towards engaging in climate activism, a *"coming together of communities who stood against the perpetrators, the enablers, and the divisive media narratives"* (participant NZ). Activism was depicted as public action intended to influence policy or public behaviour (97), through campaigns, protests, letter writing, national petitions and strikes. This is similar to climate activism movements today (98). Participants described positive impacts from

activism on the planetary level, for example *"wildlife blooming in their back garden"* (participant KW), as well as the individual level, for example *"Slowly I realised I felt better just standing with everyone. And I learned things"* (participant IE). Participant IE expressed the psychological benefits from taking part in collective environmental activism, which reflect results from Schwartz and colleagues' recent research (99).

Stories also spoke of psychologists becoming activist. Participant SI described that *"The turning point came when first tens, then hundreds, then thousands of risk-averse and cautious Clinical Psychologists put their liberty on the line in successive, growing mass protests."* Here participant SI highlights the shift in psychologists deciding it necessary to take risks through activism. Group 3 took this further to specify the type of direct action:

> *"Ashley and some psychologists kind of pioneer a complete like rejection and rebellion against for example professional bodies like the HCPC and a huge portion of them refuse to reregister unless climate is central…[Audience cheers, one member says "fantastic"]."*

This proposition gained traction from the workshop audience, suggesting many workshop participants supported this imagining. This suggests there is will amongst psychological professionals to engage in activism which supports calls from within the literature for healthcare professionals to engage in climate activism as their 'moral imperative' (33). Due to such entreaties, research has focused on the costs to healthcare professionals engaging in such activism (100). Lindemer suggests that greater professional support could mitigate identified costs, which is something that Group 3 testified to.

From this depicted growing activist movement, participants described a developing role for clinical psychology to support climate activists and their activism. Therapy became spaces to support individual self-worth and value-led behaviour. For example, participant WK describes that activists *"were initially supported by psychologists across the world who helped them to access their power to harness humans' innate goodness and trust that their actions would be enough."* This reflects current literature about psychologists supporting clients' social identity formation for relieving climate distress and engaging in collective climate action (101).

Collectively, regenerative cultures within activism were imagined as supported by psychologists. Participant YS described that Ashley's psychology *"skills were really useful then as we could advise the activist groups on how to be caring and supportive of each other"*. Furthermore, it was imagined that psychologists would support activists' mental health, as exemplified by participant AM describing that Ashley helped *"activists experiencing climate grief... she learned about the mental*

stress that activists experience because they feel responsible for the future of the world. She found that a lot of activists were feeling hopeless about our future". Here, the emotional toll of taking part in activism is highlighted, which chimes with research evidencing how activism can have negative, as well as positive, impacts on activists' wellbeing and mental health (102, 103).

2.4.3.5 Changing Political Landscape and Relating to Leaders

Alongside activism, society and clinical psychology were described as becoming more engaged in politics, often as a means to influence policy and access funding. Sometimes this was depicted as psychologists engaging in higher order leadership, or politicians engaging in community concerns. For example:

> *"The Prime Minister spoke with the psychologists involved in the project and listened to the voices of the people, about how these projects supported their mental health and they felt that change in the environment was possible. The Prime Minister thought this was a great idea and offered funding across the country (across all areas equity) for more psychology community projects to take place. Policies were put in place to support people to support the environment"* (participant BA).

Some participants attributed this shift in political practice to the success of activism where *"Governments had no choice but to accede to our demands in the end"* (participant SI), a utopian vision.

Ideas of a political psychologist's role varied, from *"a clinical psychologist advisor in government"* (participant BM), leading *"reflective practice for the UK government"* (Group 6), running *"a support group for MPs"* (participant IE) to setting up a *"Government department…for Clinical Psychology and World Confidence"* (participant WP). It was acknowledged that psychologists had unique skill sets to support political change. For example, participant EP describes psychologists using:

> *"their positions of power, empathy and communication to work with the government to bring about systemic changes…and help them [MPs] to turn towards their own distress, to see the pain of the world and of their constituents, and to fight for change"*.

They are suggesting that psychologists are well placed to support MPs to let go of their cognitive defences in order to provide more attuned leadership.

The political roles assigned to psychologists reflect wider debates about clinical psychology's neutrality as a discipline. This is a contested argument, in which Cook and Rahim stipulate the need

for psychologists to challenge policy that impacts mental health, since staying silent would be siding with the oppressors (104). Due to this contestation, it is unsurprising that within the stories politics and clinical psychology were conceptualised within the existing power structures. However, on the societal level a move was described towards devolved leadership and localised decision making through initiatives such as citizens' assemblies; or further still at the grassroots level, for example *"Community leaders came together to decide national and international agendas, but funds and resources were evenly distributed - reducing conflict and competition that previously drove climate destruction"* (participant WK). Here it is suggested that localised politics would support more equity in CEE mitigation and adaptation.

This poses a tension between how society wants to engage in politics and how clinical psychology can engage, as depicted within the stories. This tension can be understood from present day engagement in politics; society is already political, thus, the next utopian step could be to devolve power. However, arguably clinical psychology is not yet political, thus the next utopian step is to engage in politics within its present-day conceptualisation. The strong commitment to community psychology within the stories could pose a solution to this tension, whereby psychologists could still advocate and consult politically whilst engaging in a devolved power/leadership structure. This could be made possible through psychologists relinquishing their expert role, an idea present throughout the stories, such as *"co-create[ing] a purer and more participatory paradigm of practice…which…became stronger and ever more sustaining"* (participant KD). Here co-creation is lauded, which echoes the words of Riemer and Harré who exemplify how community psychology can "enter the deeply democratic process of working with others to discuss how we can live together well on this planet." (87)[(p.449)]

2.4.3.6 Moving Away from Traditional Therapy

In order to carry out the work that the above subthemes call for, it was depicted by participants that psychologists would be moving away from traditional therapeutic roles. A few stories spoke of the need to leave the NHS to support "*more charities and communities"* (participant BA) or set up a *"consultancy"* with *"similarly minded psychologists"* (participant KF). Participant NZ suggested this departure from the NHS was because the *"bureaucracy and inherent 'Weitkoism' would stifle and divert the progress needed."*

Other domains participants described psychologists working in included: being *"a consultant in a green social impact consultancy firm"* (participant KB), delivering therapy within the *"Job Centre"* (participant YS), *"[breaking] out to train in ecotherapy"* (participant VN), *"becoming a clinical*

psychologist advisor in government" (participant BM), or even *"helping to design new cities which satisfied our innate need to connect with our natural surroundings"* (participant SC). Artificial Intelligence (AI) was also considered a tool psychologists might use to save time "*and build more caring relationships"* (Group 1) or to model specifically future climate-related decisions (Group 3).

Within these imagined futures there are a plethora of opportunities for clinical psychology to mitigate and adapt to the deleterious impacts of the CEE on mental health. Furthermore, what unites such work, as the previous subthemes have attested to, is the core of togetherness that participants have exemplified. This is summarised by participant VN:

> *"We remember the gladness we felt when different colleagues found different strengths and capacities as clinical psychologists to make their contribution. Some were supporters, some were activists, some were researchers, some dreamt big visions and imagined new ways of being, others spread the word."*

Here, she warmly welcomes all psychologists to engage in a transformative process for clinical psychology to work for the CEE.

2.4.3.7 Culminating in Utopian Visions from Thrutopian Developments

Within many stories there was a clear desire for thrutopian change but often participants struggled to depict the clear system change that would be needed to achieve this. Vague language was used such as *"Humanity was mobilised on a personal, local, national and global basis"* (participant AW) without specifying how this mobilisation occurred. There was a desire for thrutopias to happen but without knowing how they could get there, for example participant KF explained that *"All Clinical Psychology as a profession could do was to be ready to help build the alternative future when national/international policy eventually responded to the climate emergency"*. Here, there is a passivity, or perhaps inability, to imagine what this alternative future could look like. Therefore, although the stories of imagined futures contained many guises for how clinical psychology could mitigate and adapt to the deleterious impacts of the CEE on mental health, sometimes this lacked the clarity to be useful for a vision.

Despite some participants struggling, often stories ended with utopian visions and positive emotional affect, which included an improvement in mental health. Summarising such utopian visions, participant GW described:

> *"Nature roared as it made its recovery, and with the sight of beautiful, bright colours and majestic creatures brought a positive outlook on life. The beauty of nature was instilled within*

humans... and that beauty transformed mental health. With people breathing cleaner air, they exhaled clearer thoughts, and for one moment, things felt peaceful. There wasn't traffic tormenting the roads of people's brains…An inner peace was there and it healed the scars of the world and the very beings that inhabited the planet."

2.5 Discussion

Using story completion methodology to envision a role for clinical psychology to mitigate against and adapt to the deleterious impacts of the CEE on mental health, has resulted in three overarching themes: Acknowledgement is the First Step, Engagement in the CEE is Part of Creating a Role, and Going Forth in Unison. These three themes describe distinct processes which echo Stern et al.'s value-belief-norm model (97). This model has been validated as predicting support for the environmental movement. It posits that humans move along a chain; becoming aware of the consequences of one's actions on the planet, developing a sense of obligation to act sustainably and then acting sustainably in the realm of one's capabilities. Much like Stern et al.'s model, similar processes were discerned from participant's stories whereby a need to acknowledge the CEE enabled an engagement with the CEE which brought forth action for the CEE (going forth in unison). However, there was a distinct additional component of grief identified within the stories. Grief supported the character of Ashely, and others in society, to acknowledge and then engage with the CEE. Grief is a key component in Macy's work of Active Hope and the Work that Reconnects, whereby a process of 'honouring our pain for the world' is experienced before Active Hope can be cultivated (49, 105). Therefore, the themes of this research are indicative of current models of environmental action.

Overall, many roles were attributed to clinical psychology which therefore pose many suggestions for how clinical psychologists could practise to mitigate and adapt to the CEE in order to support mental health. Within 'Acknowledgement' the role attributed to clinical psychology was to acknowledge the root causes of the CEE and emotional responses to them. Therefore, psychologists could support people in those acknowledgement processes as part of their role. Current psychological interventions, such as Climate Cafes (106) or the Work that Reconnects (105), facilitate space for such work. Furthermore, Cunsolo and Ellis advocate for grief work on the individual and collective level to support climate-related mental health (107), for which psychologists have the skill-set to deliver.

From this developed awareness, the role attributed to clinical psychology in 'Engagement' was manifest. Firstly, the discipline could engage more widely in alternative conceptualisations of mental health. Secondly, psychologists could attend spaces, like climate cafes (108), where hard to bear feelings and difficult truths can be held, creating relational resilience to support engagement (80). Thirdly, connection from such spaces could empower psychologists to engage others in the CEE, backed up by their psychological understandings of denial and other defence mechanisms. Finally,

this could culminate in psychological formulation and intervention for those already engaged in the CEE or for those who are resisting such engagement.

These two processes of 'Acknowledgement' and 'Engagement' paved the way for 'Going Forth' (the final theme). From here, the role attributed to clinical psychology was to support people in living more simply, to deliver community and nature based psychological practice, to support their own activism and that of others, and to become political.

Therefore, the discipline could support wider delivery of more nature-based therapies by psychologists as a means to support mental-health and planetary-health. Recent research has found positive contributions of nature-based therapies for improved mental health (109) with eco-therapy being as successful as cognitive behavioural therapy for depression (110). Furthermore, participant descriptions of psychologists delivering teaching and training on the therapeutic benefits of nature, indicates another possible role which would support psychologists' current duties towards preventative health (36).

As has already been attested to, community psychology could be an approach that clinical psychology utilises to support community CEE work (81). Furthermore, community psychology interventions, such as Dittmer and Reimer's critical consciousness workshops provide a blueprint for supporting communities in developing critical thinking and subsequent action (111). Thus, psychologists could facilitate critical consciousness work, which was also advocated for in 'Living More Simply'. Furthermore, across the 'Importance of Community' subtheme, participants spoke of expanding clinical psychology's inter-professional working. This is much like within the multi-professional climate movement today. Therefore clinical psychology could apply this relational approach beyond people and systems to the reciprocal relationship individuals have with the earth (112).

Despite being presented as separate subthemes, 'Growing Appreciation for Nature' and 'Importance of Community' were often intertwined, with community intervention incorporating nature-based practices. Therefore, psychologists could work at the intersection of nature and communities by understanding distress through this relational, nature-based lens and conduct intervention accordingly. This proposition is supported by literature that found the interaction of being in nature with social connection is a powerful conduit within psychological intervention for mental health recovery (113, 114).

Similar to the imagined activist and political roles for the discipline and individual psychologists within the stories, such spaces have been advocated for within psychology. Calls have been made for

training courses to teach on political legislative structures (115) and O'Hare and Meheux have demonstrated how psychologists are and should continue to influence policy and socio-political change as a means to work towards social justice. Furthermore, Turner suggests that psychologists have a duty to support supervisees in discovering their own political identity. In doing so supervision becomes part of social activism and supports psychology in becoming political (116). This politicisation was also seen within the 'More Space for Climate Activism' subtheme. From this, a psychologist's role could be to support climate activists coping with the impacts of climate activism (117). Furthermore, some stories alluded to the discipline legitimising climate activism, which is seen today with healthcare professionals advocating for public health (118). Thus, a part of clinical psychology's role could be to become activist as a discipline.

Finally, it is interesting to consider why some participants had difficulties in imagining utopian futures, as was asked of them. It is known that stress, sleep, diet, exercise, neoliberal economics and growth-based capitalism all impact on the ability to imagine (119). So, to what extent were participants suffering from curtailments to the imagination, whilst remembering that the ability to imagine is facilitated by privilege (120)? Cognitive psychologist Rhodes has developed an intervention for developing imagination so to support well-being and climate action; it is within this vein that clinical psychology intervention could follow (121).

These results may well challenge traditional dogma as to what it is to be a clinical psychologist and to practice clinical psychology. However, it is now more widely accepted that to 'fix' individuals or systems in the face of continuing oppression and systemic failure is unethical (122). With this in mind, the relevance of the CEE to clinical psychology no longer can be disputed and to avoid ecological catastrophe must be heeded (123). The Planetary Health Group of Trainers in Clinical Psychology call for a new paradigm for a new planet (124).

This new paradigm could be one that upholds the words of Watkins and Shulman - "We do not want to assume that the role of psychology is to help individuals and families adapt to the status quo when this present order contributes so massively to human misery, psychological and otherwise" (125) [(p.13-14)]. These words capture the desire for justice, stewardship and community present throughout the current analysis and key principles of community psychology (126). However, also within the analysis there was an assertion that clinical psychology still has a role on the individual level. Thus a strength of this research is that it paves a way to transformative change, broadening the boundaries of psychology through community psychology principles (127).

2.5.1 Strengths, Limitations as well as Future Research

This research also broadened the scope of how to utilise story completion methodology, since it was successfully used within an imaginative paradigm and with the addition of a group format. This co-creation of stories was brought to life in a way that celebrated the traditional roots of oral story telling. It would have been useful to explore the experiences of workshop participants and identify what was brought to the research through using this group methodology. However, this was beyond the scope for this research and therefore future research which looks to use a group story completion task would benefit from exploring such parameters. Furthermore, it is important to note the potential for bias in that the first author knew some of the workshop attendees. However, this was mitigated through the autonomous nature of the workshop and the impossibility to know who had contributed what aspects to the co-created stories.

This research decided not to pay participants for taking part, which could be considered an ethical limitation (128). However, it was in line with recent calls for universities to promote ethical voucher options as opposed to using vouchers deemed unethical, such as amazon (129). Instead of monetary payment, it was hoped that by taking part in this research participants would gain something from the experience of the story completion task, therefore putting reciprocity, a key principle of planetary health (130), at the heart of this research. Some participants fed-back that it was a uniquely powerful experience[18]. Future research should seek to understand participants' experience of taking part in story completion methodology as a means of personal growth. Furthermore, future research should question the ethical decisions around participant payment and ensure systemic factors of planetary health are key considerations.

Climate activists were included as participants to ensure the voices of people using future clinical psychology services were captured in the envisioned role for clinical psychology. Furthermore, the story completion task was piloted, and the codes and themes discussed in a focus group with two psychologists and a climate activist. Despite these elements of participation, this research would have benefited from having a greater co-creation and participation approach. Furthermore, there was a lack of diversity in the sample with most participants identifying as 'White-British'. Therefore, future research would benefit from having an expert by experience as part of the research team as well as greater diversity within the sample.

[18] See Appendix B.16 for a reflective log excerpt on participant feedback.

Considering there were two different participant groups (climate activists and practitioner psychologists), analysis comparing the stories across participant groups could have provided a nuanced understanding as to the scope of imagined futures held by practitioner psychologists and those held by climate activists. This was beyond the remit of this research; however future research would benefit from exploring the different perspectives of those working within psychology services and those that could use psychology services in the future and whether this would create differing or similar visions for a future clinical psychology that works to mitigate and adapt to the CEE as a means to support mental health.

2.5.2 Implications for Clinical Practice and Future Research

Since this research required participants to envision what the role for clinical psychology could be, an array of future potential roles for the discipline and individual psychologists have been imagined and discussed. As has been demonstrated, many of these imaginings have echoed existing wider literature for psychological practice. Therefore, such areas of practice are listed here as pertinent considerations for clinical psychology to integrate into practice:

- To support planetary health (6) and community psychology principles (127) in order to uphold the preventative duties of the profession (36), as well as alternative conceptualisations of mental health and support.
- To facilitate climate-related acknowledgement and grief work, using models such as Climate Cafes (106, 108) and the Work That Reconnects (105).
- To conduct nature-based therapies, training and workshops.
- To deliver critical consciousness work (89).
- To embrace politics explicitly within the profession and thus work to influence policy and socio-political change.

Future research should explore these specific areas of psychological practice, as highlighted within the stories, to assess the effectiveness of such interventions. Furthermore, the development of such research should also seek to develop sustainable research practice and intervention so to support the mitigation and adaptation to the CEE within psychological services.

2.5.3 Conclusion

This study provides a vision for how clinical psychology could be working to mitigate and adapt to the deleterious impacts of the CEE on mental health, rooted in collaborative, nature-based action. Furthermore, it demonstrates a novel application for story completion methodology in co-creating

imagined futures. In line with existing research and models, the participants demonstrated that going through processes of acknowledgement and engagement were needed before committed and informed action for the CEE could take place. Furthermore, in line with current literature, participants demonstrated the applicability of community psychology principles, tenets of nature-based therapies and the need to be political, to clinical psychology today. These imaginations can be more than wishful thinking; through dedicated action from a committed and evidenced-based vision, we can shift the culture of today for a different future for tomorrow.

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2.8 Supporting Information[19]

2.8.1 List of Author Contributions

Georgia King

- Conceptualization
- Formal Analysis
- Investigation
- Methodology
- Project Administration
- Resources
- Visualization
- Writing – Original Draft Preparation
- Writing – Reviewing & Editing

Matthew Adams

- Conceptualization
- Methodology
- Supervision
- Writing – Reviewing & Editing

Nick Maguire

- Conceptualization
- Supervision
- Writing – Reviewing & Editing

Marc Williams

- Conceptualization
- Resources
- Supervision
- Writing – Reviewing & Editing

[19] Please note this 'Supporting Information' is required by the PLOS Global Public Health Journal and will therefore be uploaded as a separate document upon submission to the journal.

2.9 Appendices[20]

2.9.1 Appendix B.1. PLOS Global Public Health Journal's Submission Guidelines

Style and Format

File format	Manuscript files can be in the following formats: DOC, DOCX, or RTF. Microsoft Word documents should not be locked or protected. LaTeX manuscripts must be submitted as PDFs. Read the LaTeX guidelines.
Length	Manuscripts can be any length. There are no restrictions on word count, number of figures, or amount of supporting information. We encourage you to present and discuss your findings concisely.
Font	Use a standard font size and any standard font, except for the font named "Symbol". To add symbols to the manuscript, use the Insert → Symbol function in your word processor or paste in the appropriate Unicode character.
Headings	Limit manuscript sections and sub-sections to 3 heading levels. Make sure heading levels are clearly indicated in the manuscript text.
Layout and spacing	Manuscript text should be double-spaced. Do not format text in multiple columns.
Page and line numbers	Include page numbers and line numbers in the manuscript file. Use continuous line numbers (do not restart the numbering on each page).
Footnotes	Footnotes are not permitted. If your manuscript contains footnotes, move the information into the main text or the reference list, depending on the content.
Language	Manuscripts must be submitted in English. You may submit translations of the manuscript or abstract as supporting information. Read the supporting information guidelines.
Abbreviations	Define abbreviations upon first appearance in the text. Do not use non-standard abbreviations unless they appear at least three times in the text. Keep abbreviations to a minimum.

[20] Please note these appendices are only for the purposes of thesis examination and will not be submitted to the relevant journals.

Reference style	PLOS uses "Vancouver" style, as outlined in the ICMJE sample references. See reference formatting examples and additional instructions below.	
Equations	We recommend using MathType for display and inline equations, as it will provide the most reliable outcome. If this is not possible, Equation Editor or Microsoft's Insert→Equation function is acceptable. Avoid using MathType, Equation Editor, or the Insert→Equation function to insert single variables (e.g., "$a^2 + b^2 = c^2$"), Greek or other symbols (e.g., β, Δ, or ′ [prime]), or mathematical operators (e.g., x, ≥, or ±) in running text. Wherever possible, insert single symbols as normal text with the correct Unicode (hex) values. Do not use MathType, Equation Editor, or the Insert→Equation function for only a portion of an equation. Rather, ensure that the entire equation is included. Equations should not contain a mix of different equation tools. Avoid "hybrid" inline or display equations, in which part is text and part is MathType, or part is MathType and part is Equation Editor.	
Nomenclature	Use correct and established nomenclature wherever possible.	
	Units of measurement	Use SI units. If you do not use these exclusively, provide the SI value i parentheses after each value. Read more about SI units.
	Drugs	Provide the Recommended International Non-Proprietary Name (rINN
	Species names	Write in italics (e.g., *Homo sapiens*). Write out in full the genus and sp in the title of the manuscript and at the first mention of an organism After first mention, the first letter of the genus name followed by the name may be used (e.g., *H. sapiens*).
	Genes, mutations, genotypes, and alleles	Write in italics. Use the recommended name by consulting the appro nomenclature database (e.g., HGNC for human genes; we strongly re using this tool to check against previously approved names). It is som advisable to indicate the synonyms for the gene the first time it appe text. Gene prefixes such as those used for oncogenes or cellular locali be shown in roman typeface (e.g., v-fes, c-MYC).
	Allergens	The systematic allergen nomenclature of the World Health Organization/International Union of Immunological Societies (WHO/I Nomenclature Sub-committee should be used for manuscripts that in description or use of allergenic proteins. For manuscripts describing r the systematic name of the allergen should be approved by the WHO Nomenclature Sub-Committee prior to manuscript publication. Exam systematic allergen nomenclature can be found at the WHO/IUIS Alle Nomenclature site.

Manuscript Organization

Manuscripts should be organized as follows. Instructions for each element appear below the list.

Beginning section	*The following elements are required, in order:* • Title page: List title, authors, and affiliations as first page of the manuscript • Abstract • Introduction
Middle section	*The following elements can be renamed as needed and presented in any order:* • Materials and Methods • Results • Discussion • Conclusions (optional)
Ending section	*The following elements are required, in order:* • Acknowledgments • References • Supporting information captions (if applicable)
Other elements	• Figure captions are inserted immediately after the first paragraph in which the figure is cited. Figure files are uploaded separately. • Tables are inserted immediately after the first paragraph in which they are cited. • Supporting information files are uploaded separately.

 Refer to our downloadable sample files to ensure that your submission meets our formatting requirements:

- Download sample title, author list, and affiliations page (PDF)
- Download sample manuscript body (PDF)

Viewing Figures and Supporting Information in the compiled submission PDF
The compiled submission PDF includes low-resolution preview images of the figures after the reference list. The function of these previews is to allow you to download the entire submission as quickly as possible. Click the link at the top of each preview page to download a high-resolution version of each figure. Links to download Supporting Information files are also available after the reference list.

Parts of a Submission

Title

Include a full title and a short title for the manuscript.

Title	Length	Guidelines	Examples
Full title	200 characters	Specific, descriptive, concise, and comprehensible to readers outside the field	Impact of cigarette smoke exposure on innate immunity: A *Caenorhabditis elegans* model Solar drinking water disinfection (SODIS) to reduce childhood diarrhoea in rural Bolivia: A cluster-randomized, controlled trial
Short title	70 characters	State the topic of the study	Cigarette smoke exposure and innate immunity SODIS and childhood diarrhoea

Titles should be written in sentence case (only the first word of the text, proper nouns, and genus names are capitalized). Avoid specialist abbreviations if possible. For clinical trials, systematic reviews, or meta-analyses, the subtitle should include the study design.

Author list

Authorship requirements

All authors must meet the criteria for authorship as outlined in the authorship policy. Those who contributed to the work but do not meet the criteria for authorship can be mentioned in the Acknowledgments. Read more about Acknowledgments.

The corresponding author must provide an ORCID iD at the time of submission by entering it in the user profile in the submission system. Read more about ORCID.

Author names and affiliations

Enter author names on the title page of the manuscript and in the online submission system.

On the title page, write author names in the following order:

- First name (or initials, if used)
- Middle name (or initials, if used)
- Last name (surname, family name)

Each author on the list must have an affiliation. The affiliation includes department, university, or organizational affiliation and its location, including city, state/province (if applicable), and country. Authors have the option to include a current address in addition to the address of their affiliation at the time of the study. The current address should be listed in the byline and clearly labeled "current address." At a minimum, the address must include the author's current institution, city, and country.

If an author has multiple affiliations, enter all affiliations on the title page only. In the submission system, enter only the preferred or primary affiliation. Author affiliations will be listed in the typeset PDF article in the same order that authors are listed in the submission.

Author names will be published exactly as they appear in the manuscript file. Please double-check the information carefully to make sure it is correct.

Corresponding author

The submitting author is automatically designated as the corresponding author in the submission system. The corresponding author is the primary contact for the journal office and the only author able to view or change the manuscript while it is under editorial consideration.

The corresponding author role may be transferred to another coauthor. However, note that transferring the corresponding author role also transfers access to the manuscript. (To designate a new corresponding author while the manuscript is still under consideration, watch the video tutorial below.)

Only one corresponding author can be designated in the submission system, but this does not restrict the number of corresponding authors that may be listed on the article in the event of publication. Whoever is designated as a corresponding author on the title page of the manuscript file will be listed as such upon publication. Include an email address for each corresponding author listed on the title page of the manuscript.

Consortia and group authorship

If a manuscript is submitted on behalf of a consortium or group, include its name in the manuscript byline. Do not add it to the author list in the submission system. You may include the full list of members in the Acknowledgments or in a supporting information file.

PubMed only indexes individual consortium or group author members listed in the article byline. If included, these individuals must qualify for authorship according to our criteria.

Read the group authorship policy.

Author contributions

Provide at minimum one contribution for each author in the submission system. Use the CRediT taxonomy to describe each contribution. Read the policy and the full list of roles.

Contributions will be published with the final article, and they should accurately reflect contributions to the work. The submitting author is responsible for completing this information at submission, and we expect that all authors will have reviewed, discussed, and agreed to their individual contributions ahead of this time.

PLOS Global Public Health will contact all authors by email at submission to ensure that they are aware of the submission.

Cover letter

Upload a cover letter as a separate file in the online system. The length limit is 1 page.

The cover letter should include the following information:

- Summarize the study's contribution to the scientific literature

- Relate the study to previously published work
- Specify the type of article (for example, research article, systematic review, meta-analysis, clinical trial)
- Describe any prior interactions with PLOS regarding the submitted manuscript

IMPORTANT: Do not include requests to reduce or waive publication fees in the cover letter. This information will be entered separately in the online submission system.

Read about publication fee assistance.

Title page

The title, authors, and affiliations should all be included on a title page as the first page of the manuscript file.

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Abstract

The Abstract comes after the title page in the manuscript file. The abstract text is also entered in a separate field in the submission system.

The Abstract should be succinct; it must not exceed 300 words. Authors should mention the techniques used without going into methodological detail and should summarize the most important results.

While the Abstract is conceptually divided into three sections (Background, Methodology/Principal Findings, and Conclusions/Significance), do not apply these distinct headings to the Abstract within the article file.

Do not include any citations. Avoid specialist abbreviations.

Introduction

The introduction should put the focus of the manuscript into a broader context. As you compose the Introduction, think of readers who are not experts in this field. Include a brief review of the key literature. If there are relevant controversies or disagreements in the field, they should be mentioned so that a non-expert reader can delve into these issues further. The Introduction should conclude with a brief statement of the overall aim of the experiments and a comment about whether that aim was achieved.

Materials and Methods

The Materials and Methods should provide enough detail to reproduce the findings. Submit detailed protocols for newer or less established methods. Well-established protocols may be referenced.

Details of algorithms and protocol documents for clinical trials, observational studies, and other **non-laboratory** investigations may be uploaded as supporting information. These are not included in the typeset manuscript, but are downloadable and fully searchable from the HTML version of the article. Read the supporting information guidelines for formatting instructions.

We recommend and encourage you to deposit **laboratory protocols** in protocols.io, where protocols can be assigned their own persistent digital object identifiers (DOIs).

To include a link to a protocol in your article:

1. Describe your step-by-step protocol on protocols.io
2. Select **Get DOI** to issue your protocol a persistent digital object identifier (DOI)
3. Include the DOI link in the Methods section of your manuscript using the following format provided by protocols.io: http://dx.doi.org/10.17504/protocols.io.[PROTOCOL DOI]

At this stage, your protocol is only visible to those with the link. This allows editors and reviewers to consult your protocol when evaluating the manuscript. You can make your protocols public at any time by selecting **Publish** on the protocols.io site. Any referenced protocol(s) will automatically be made public when your article is published.

PLOS ONE offers an option for publishing peer-reviewed Lab Protocol articles, which describe protocols hosted on protocols.io articles. Read more information on Lab Protocol articles.

Results, Discussion, Conclusions

These sections may all be separate, or may be combined to create a mixed Results/Discussion section (commonly labeled "Results and Discussion") or a mixed Discussion/Conclusions section (commonly labeled "Discussion"). These sections may be further divided into subsections, each with a concise subheading, as appropriate. These sections have no word limit, but the language should be clear and concise.

Together, these sections should describe the results of the experiments, the interpretation of these results, and the conclusions that can be drawn.

Authors should explain how the results relate to the hypothesis presented as the basis of the study and provide a succinct explanation of the implications of the findings, particularly in relation to previous related studies and potential future directions for research.

PLOS Global Public Health editorial decisions do not rely on perceived significance or impact, so authors should avoid overstating their conclusions. See the *PLOS Global Public Health* Criteria for Publication for more information.

Consult our reporting guidelines, and include an ethics statement in the Materials and Methods section when reporting results from human subjects research and animal research.

Acknowledgments

Those who contributed to the work but do not meet our authorship criteria should be listed in the Acknowledgments with a description of the contribution.

Authors are responsible for ensuring that anyone named in the Acknowledgments agrees to be named.

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Do not include funding sources in the Acknowledgments or anywhere else in the manuscript file. Funding information should only be entered in the financial disclosure section of the submission system.

References

Any and all available works can be cited in the reference list. Acceptable sources include:

- Published or accepted manuscripts
- Manuscripts on preprint servers, providing the manuscript has a citable DOI or arXiv URL.

Do not cite the following sources in the reference list:

- Unavailable and unpublished work, including manuscripts that have been submitted but not yet accepted (e.g., "unpublished work," "data not shown"). Instead, include those data as supplementary material or deposit the data in a publicly available database.
- Personal communications (these should be supported by a letter from the relevant authors but not included in the reference list)
- Submitted research should not rely upon retracted research. You should avoid citing retracted articles unless you need to discuss retracted work to provide historical context for your submitted research. If it is necessary to discuss retracted work, state the article's retracted status in your article's text and reference list.

Ensure that your reference list includes full and current bibliography details for every cited work at the time of your article's submission (and publication, if accepted). If cited work is corrected, retracted, or marked with an expression of concern before your article is published, and if you feel it is appropriate to cite the work even in light of the post-publication notice, include in your manuscript citations and full references for both the affected article and the post-publication notice. Email the journal office if you have questions.

References are listed at the end of the manuscript and numbered in the order that they appear in the text. In the text, cite the reference number in square brackets (e.g., "We used the techniques developed by our colleagues [19] to analyze the data"). PLOS uses the numbered citation (citation-sequence) method and first six authors, et al.

Do not include citations in abstracts.

Make sure the parts of the manuscript are in the correct order *before* ordering the citations.

Formatting references

Because all references will be linked electronically as much as possible to the papers they cite, proper formatting of references is crucial.

PLOS uses the reference style outlined by the International Committee of Medical Journal Editors (ICMJE), also referred to as the "Vancouver" style. Example formats are listed below. Additional examples are in the ICMJE sample references.

A reference management tool, EndNote, offers a current style file that can assist you with the formatting of your references. If you have problems with any reference management program, please contact the source company's technical support.

Journal name abbreviations should be those found in the National Center for Biotechnology Information (NCBI) databases.

Source	Format
Published articles	Hou WR, Hou YL, Wu GF, Song Y, Su XL, Sun B, et al. cDNA, genomic sequence cloning and overexpression of ribosomal protein gene L9 (rpL9) of the giant panda (Ailuropoda melanoleuca). Genet Mol Res. 2011;10: 1576-1588. Devaraju P, Gulati R, Antony PT, Mithun CB, Negi VS. Susceptibility to SLE in South Indian Tamils may be influenced by genetic selection pressure on TLR2 and TLR9 genes. Mol Immunol. 2014 Nov 22. pii: S0161-5890(14)00313-7. doi: 10.1016/j.molimm.2014.11.005. Note: A DOI number for the full-text article is acceptable as an alternative to or in addition to traditional volume and page numbers. When providing a DOI, adhere to the format in the example above with both the label and full DOI included at the end of the reference (doi: 10.1016/j.molimm.2014.11.005). Do not provide a shortened DOI or the URL.
Accepted, unpublished articles	Same as published articles, but substitute "Forthcoming" for page numbers or DOI.
Online articles	Huynen MMTE, Martens P, Hilderlink HBM. The health impacts of globalisation: a conceptual framework. Global Health. 2005;1: 14. Available from: http://www.globalizationandhealth.com/content/1/1/14
Books	Bates B. Bargaining for life: A social history of tuberculosis. 1st ed. Philadelphia: University of Pennsylvania Press; 1992.
Book chapters	Hansen B. New York City epidemics and history for the public. In: Harden VA, Risse GB, editors. AIDS and the historian. Bethesda: National Institutes of Health; 1991. pp. 21-28.
Deposited articles (preprints, e-prints, or arXiv)	Krick T, Shub DA, Verstraete N, Ferreiro DU, Alonso LG, Shub M, et al. Amino acid metabolism conflicts with protein diversity. arXiv:1403.3301v1 [Preprint]. 2014 [cited 2014 March 17]. Available from: https://128.84.21.199/abs/1403.3301v1 Kording KP, Mensh B. Ten simple rules for structuring papers. BioRxiv [Preprint]. 2016 bioRxiv 088278 [posted 2016 Nov 28; revised 2016 Dec 14; revised 2016 Dec 15; cited 2017 Feb 9]: [12 p.]. Available from: https://www.biorxiv.org/content/10.1101/088278v5 doi: 10.1101/088278
Published media (print or online newspapers and magazine articles)	Fountain H. For Already Vulnerable Penguins, Study Finds Climate Change Is Another Danger. The New York Times. 2014 Jan 29 [Cited 2014 March 17]. Available from: http://www.nytimes.com/2014/01/30/science/earth/climate-change-taking-toll-on-penguins-study-finds.html
New media (blogs, web sites, or other written works)	Allen L. Announcing PLOS Blogs. 2010 Sep 1 [cited 17 March 2014]. In: PLOS Blogs [Internet]. San Francisco: PLOS 2006 - . [about 2 screens]. Available from: http://blogs.plos.org/plos/2010/09/announcing-plos-blogs/.

Source	Format
Masters' theses or doctoral dissertations	Wells A. Exploring the development of the independent, electronic, scholarly journal. M.Sc. Thesis, The University of Sheffield. 1999. Available from: http://cumincad.scix.net/cgi-bin/works/Show?2e09
Databases and repositories (Figshare, arXiv)	Roberts SB. QPX Genome Browser Feature Tracks; 2013 [cited 2013 Oct 5]. Database: figshare [Internet]. Available from: http://figshare.com/articles/QPX_Genome_Browser_Feature_Tracks/701214
Multimedia (videos, movies, or TV shows)	Hitchcock A, producer and director. Rear Window [Film]; 1954. Los Angeles: MGM.

Supporting information

Authors can submit essential supporting files and multimedia files along with their manuscripts. All supporting information will be subject to peer review. All file types can be submitted, but files must be smaller than 20 MB in size.

Authors may use almost any description as the item name for a supporting information file as long as it contains an "S" and number. For example, "S1 Appendix" and "S2 Appendix," "S1 Table" and "S2 Table," and so forth.

Supporting information files are published exactly as provided, and are not copyedited.

Supporting information captions

List supporting information captions at the end of the manuscript file. Do not submit captions in a separate file.

The file number and name are required in a caption, and we highly recommend including a one-line title as well. You may also include a legend in your caption, but it is not required.

Example caption

S1 Text. Title is strongly recommended. Legend is optional.

In-text citations

We recommend that you cite supporting information in the manuscript text, but this is not a requirement. If you cite supporting information in the text, citations do not need to be in numerical order.

Read the supporting information guidelines for more details about submitting supporting information and multimedia files.

Figures and tables

Figures

Do not include figures in the main manuscript file. Each figure must be prepared and submitted as an individual file.

Cite figures in ascending numeric order at first appearance in the manuscript file.

Read the guidelines for figures and requirements for reporting blot and gel results.

Figure captions

Figure captions must be inserted in the text of the manuscript, immediately following the paragraph in which the figure is first cited (read order). Do not include captions as part of the figure files themselves or submit them in a separate document.

At a minimum, include the following in your figure captions:

- A figure label with Arabic numerals, and "Figure" abbreviated to "Fig" (e.g. Fig 1, Fig 2, Fig 3, etc). Match the label of your figure with the name of the file uploaded at submission (e.g. a figure citation of "Fig 1" must refer to a figure file named "Fig1.tif").
- A concise, descriptive title

The caption may also include a legend as needed.

Read more about figure captions.

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Cite tables in ascending numeric order upon first appearance in the manuscript file.

Place each table in your manuscript file directly after the paragraph in which it is first cited (read order). Do not submit your tables in separate files.

Tables require a label (e.g., "Table 1") and brief descriptive title to be placed above the table. Place legends, footnotes, and other text below the table.

Read the guidelines for tables.

Statistical reporting

Manuscripts submitted to *PLOS Global Public Health* are expected to report statistical methods in sufficient detail for others to replicate the analysis performed. Ensure that results are rigorously reported in accordance with community standards and that statistical methods employed are appropriate for the study design.

Consult the following resources for additional guidance:

- SAMPL guidelines, for general guidance on statistical reporting
- *PLOS Global Public Health* guidelines, for clinical trials requirements
- *PLOS Global Public Health* guidelines, for systematic review and meta-analysis requirements
- EQUATOR, for specific reporting guidelines for a range of other study types

Reporting of statistical methods

In the methods, include a section on statistical analysis that reports a detailed description of the statistical methods. In this section:

- List the name and version of any software package used, alongside any relevant references

- Describe technical details or procedures required to reproduce the analysis
- Provide the repository identifier for any code used in the analysis (See our code-sharing policy.)

Statistical reporting guidelines:

- Identify research design and independent variables as being between- or within-subjects
- For pre-processed data:
    - Describe any analysis carried out to confirm the data meets the assumptions of the analysis performed (e.g. linearity, co-linearity, normality of the distribution).
    - If data were transformed include this information, with a reason for doing so and a description of the transformation performed
- Provide details of how outliers were treated and your analysis, both with the full dataset and with the outliers removed
- If relevant, describe how missing/excluded data were handled
- Define the threshold for significance (alpha)
- If appropriate, provide sample sizes, along with a description of how they were determined. If a sample size calculation was performed, specify the inputs for power, effect size and alpha. Where relevant, report the number of independent replications for each experiment.
- For analyses of variance (ANOVAs), detail any post hoc tests that were performed
- Include details of any corrections applied to account for multiple comparisons. If corrections were not applied, include a justification for not doing so
- Describe all options for statistical procedures. For example, if t-tests were performed, state whether these were one- or two-tailed. Include details of the type of t-test conducted (e.g. one sample, within-/between-subjects).
- For step-wise multiple regression analyses:
    - Report the alpha level used
    - Discuss whether the variables were assessed for collinearity and interaction
    - Describe the variable selection process by which the final model was developed (e.g., forward-stepwise; best subset). See SAMPL guidelines.
- For Bayesian analysis explain the choice of prior trial probabilities and how they were selected. Markov chain Monte Carlo settings should be reported.

Reporting of statistical results

Results must be rigorously and appropriately reported, in keeping with community standards.

- **Units of measurement.** Clearly define measurement units in all tables and figures.
- **Properties of distribution.** It should be clear from the text which measures of variance (standard deviation, standard error of the mean, confidence intervals) and central tendency (mean, median) are being presented.

- **Regression analyses.** Include the full results of any regression analysis performed as a supplementary file. Include all estimated regression coefficients, their standard error, p-values, and confidence intervals, as well as the measures of goodness of fit.
- **Reporting parameters.** Test statistics (F/t/r) and associated degrees of freedom should be provided. Effect sizes and confidence intervals should be reported where appropriate. If percentages are provided, the numerator and denominator should also be given.
- **P-values.** Report exact p-values for all values greater than or equal to 0.001. P-values less than 0.001 may be expressed as $p < 0.001$, or as exponentials in studies of genetic associations.
- **Displaying data in plots.** Format plots so that they accurately depict the sample distribution. 3D effects in plots can bias and hinder interpretation of values, so avoid them in cases where regular plots are sufficient to display the data.
- **Open data.** As explained in PLOS's Data Policy, be sure to make individual data points, underlying graphs and summary statistics available at the time of publication. Data can be deposited in a repository or included within the Supporting Information files.

Data reporting

All data and related metadata underlying the findings reported in a submitted manuscript should be deposited in an appropriate public repository, unless already provided as part of the submitted article.

See instructions on providing underlying data to support blot and gel results.

Read our policy on data availability.

Repositories may be either subject-specific (where these exist) and accept specific types of structured data, or generalist repositories that accept multiple data types. We recommend that authors select repositories appropriate to their field. Repositories may be subject-specific (e.g., GenBank for sequences and PDB for structures), general, or institutional, as long as DOIs or accession numbers are provided and the data are at least as open as CC BY. Authors are encouraged to select repositories that meet accepted criteria as trustworthy digital repositories, such as criteria of the Centre for Research Libraries or Data Seal of Approval. Large, international databases are more likely to persist than small, local ones.

See our list of recommended repositories.

To support data sharing and author compliance of the PLOS data policy, we have integrated our submission process with a select set of data repositories. The list is neither representative nor exhaustive of the suitable repositories available to authors. Current repository integration partners include Dryad and FlowRepository. Please contact data@plos.org to make recommendations for further partnerships.

Instructions for PLOS submissions with data deposited in an integration partner repository:

- Deposit data in the integrated repository of choice.
- Once deposition is final and complete, the repository will provide you with a dataset DOI (provisional) and private URL for reviewers to gain access to the data.

- Enter the given data DOI into the full Data Availability Statement, which is requested in the Additional Information section of the PLOS submission form. Then provide the URL passcode in the Attach Files section.

If you have any questions, please email us.

Accession numbers

All appropriate data sets, images, and information should be deposited in an appropriate public repository. See our list of recommended repositories.

Accession numbers (and version numbers, if appropriate) should be provided in the Data Availability Statement. Accession numbers or a citation to the DOI should also be provided when the data set is mentioned within the manuscript.

In some cases authors may not be able to obtain accession numbers of DOIs until the manuscript is accepted; in these cases, the authors must provide these numbers at acceptance. In all other cases, these numbers must be provided at full submission.

Identifiers

As much as possible, please provide accession numbers or identifiers for all entities such as genes, proteins, mutants, diseases, etc., for which there is an entry in a public database, for example:

- Ensembl
- Entrez Gene
- FlyBase
- InterPro
- Mouse Genome Database (MGD)
- Online Mendelian Inheritance in Man (OMIM)
- PubChem

Identifiers should be provided in parentheses after the entity on first use.

Striking image

You can choose to upload a "Striking Image" that we may use to represent your article online in places like the journal homepage or in search results.

The striking image must be derived from a figure or supporting information file from the submission, i.e., a cropped portion of an image or the entire image. Striking images should ideally be high resolution, eye-catching, single panel images, and should ideally avoid containing added details such as text, scale bars, and arrows.

If no striking image is uploaded, we will designate a figure from the submission as the striking image.

Striking images should not contain potentially identifying images of people. Read our policy on identifying information.

The PLOS licenses and copyright policy also applies to striking images.

2.9.2 Appendix B.2. Ethics Approval Email Confirmation

Approved by Faculty Ethics Committee - ERGO II 79196

E ergo2@soton.ac.uk
To Georgia King

Reply | Reply All | Forward

Fri 10/03/2023 17:34

Approved by Faculty Ethics Committee - ERGO II 79196

University of Southampton

ERGO II – Ethics and Research Governance Online https://www.ergo2.soton.ac.uk

Submission ID: 79196
Submission Title: Imagining a joint vision for how clinical psychology could address the climate and ecological emergency using story completion methodology
Submitter Name: Georgia King

Your submission has now been approved by the Faculty Ethics Committee. You can begin your research unless you are still awaiting any other reviews or conditions of your approval.

Comments:

- Hope this all goes well - really very important research.
- I am happy to approve as but please bear in mind:
  You will need an ethics amendment and to change information sheets and consents forms if you are going to use vouchers.
  Please put the date and version number on the post.

  All the best with the research!

  Tom

Click here to view the submission

TId: 23011_Email_to_submitter___Approval_from_Faculty_Ethics_committee__cat_B___C_ Id: 608834

G.A.King@soton.ac.uk coordinator

Please do not reply to this message as it has been automatically generated by the system. This email address is not monitored.

2.9.3 Appendix B.3. Example Wording of the Participant Information Sheet Presented to Participants During Phase One

Study Title: Imagining a joint vision for how clinical psychology could address the climate and ecological emergency using story completion methodology

Researcher: Georgia King

Supervisors: Dr Marc Williams, Dr Matthew Adams ad Dr Nick Maguire

ERGO number: 79716

Version: 4

What is the research about?

For my training to become a Doctor in Clinical Psychology at the University of Southampton, I am conducting research which explores how mental health services can meet the needs of people and the planet. As the impacts of the climate and ecological emergency on mental health and wellbeing becomes more understood, it is pertinent for clinical psychology to think about how it could prevent better such detrimental effects. Some psychologists are starting to understand that the wellbeing of this planet is integral to supporting the wellbeing of humans (known as planetary health).

This study seeks to understand how clinical psychology could mitigate the climate and ecological emergency; and be part of the wider interdisciplinary movement of upholding planetary health through creative story telling.

Why have I been asked to participate?

Climate concerned Practitioner Psychologists and Climate Activists are invited to take part. It felt important to ask those who know about mental health services and those who could use such services in the future. You do not need to know about clinical psychology in order to take part. However, an understanding of the link between the climate and ecological emergency and the impacts upon mental health and wellbeing is necessary.

What will happen to me if I take part?

This is an online survey where you will be asked to complete a short story writing exercise. Please allow around 40 minutes to complete this.

You will be asked to complete a consent form, watch two short videos, write a short story and provide brief demographics. There will be a debrief at the end providing you with further information about this topic and the research you have just taken part in.

What is the story task?

You will be asked to complete a story about clinical psychology and its role in mitigating the ecological emergency. The first sentence will be written for you and it will be up to you to finish the story!

Are there any benefits in my taking part?

By taking part in this research, you will be helping to create a vision of how clinical psychology could be engaging with the climate and ecological emergency as a preventative measure for future distress. I also hope it will be fun and engaging research to take part in.

Are there any risks involved?

Thinking about the state of our world can cause distress. Despite considering this risk minimal, since climate concerned individuals regularly contemplate the climate and ecological emergency. There will be information at the end of the study about organisations that can offer support for climate related distress.

What information will be collected?

Your response to the story task will be collected, as well as demographic information (including, gender identity, ethnicity, age and country of residence) and information about your environmental world view.

At the end of the survey you will be asked whether you would like to participate in the next stages of this research and whether you would like to receive a copy of the final write up. If you select yes to either, then you will be required to provide your email address.

All of this will be gathered via Qualtrics, an online survey software. This software will export your answers to password protected files on the University of Southampton's servers. You will be allocated a participant ID on this spreadsheet, which will ensure your data is anonymised.

What will happen to the information collected?

Your participation and the information we collect about you during the research will be kept strictly confidential. Only the researcher and their supervisors will have access to this information.

You can withdraw from the study at any time. Please contact the researcher, Georgia. Note, once analysis of the stories has begun it will not be possible to withdraw your specific story.

The information collected will be analysed and written up as part of the thesis. The research project will also be put forward for publishing meaning that the results may be published in a journal and/or forum for people to access. The University of Southampton conducts research to the highest standards of ethics and research integrity. In accordance with our Research Data Management Policy, data will be held for 10 years after the study has finished when it will be securely destroyed.

Where can I get more information?

Please email Georgia King at G.A.King@soton.ac.uk if you would like to find out more.

What happens if there is a problem?

If you have a concern about any aspect of this study, you should speak to the researchers who will do their best to answer your questions.

If you remain unhappy or have a complaint about any aspect of this study, please contact the University of Southampton Research Integrity and Governance Manager (023 8059 5058, rgoinfo@soton.ac.uk).

Thank you for taking the time to read this information sheet and considering whether to take part in my research. Please click on the arrow to continue to consent .

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Data Protection Privacy Notice

The University of Southampton conducts research to the highest standards of research integrity. As a publicly-funded organisation, the University has to ensure that it is in the public interest when we use personally-identifiable information about people who have agreed to take part in research. This means that when you agree to take part in a research study, we will use information about you in the ways needed, and for the purposes specified, to conduct and complete the research project. Under data protection law, 'Personal data' means any information that relates to and is capable of identifying a living individual. The University's data protection policy governing the use of personal data by the University can be found on its website (https://www.southampton.ac.uk/legalservices/what-we-do/data-protection-and-foi.page).

This Participant Information Sheet tells you what data will be collected for this project and whether this includes any personal data. Please ask the research team if you have any questions or are unclear what data is being collected about you.

Our privacy notice for research participants provides more information on how the University of Southampton collects and uses your personal data when you take part in one of our research projects and can be found at http://www.southampton.ac.uk/assets/sharepoint/intranet/ls/Public/Research%20and%20Integrity%20Privacy%20Notice/Privacy%20Notice%20for%20Research%20Participants.pdf

Any personal data we collect in this study will be used only for the purposes of carrying out our research and will be handled according to the University's policies in line with data protection law. If any personal data is used from which you can be identified directly, it will not be disclosed to anyone else without your consent unless the University of Southampton is required by law to disclose it.

Data protection law requires us to have a valid legal reason ('lawful basis') to process and use your Personal data. The lawful basis for processing personal information in this research study is for the performance of a task carried out in the public interest. Personal data collected for research will not be used for any other purpose.

For the purposes of data protection law, the University of Southampton is the 'Data Controller' for this study, which means that we are responsible for looking after your information and using it properly. The University of Southampton will keep identifiable information about you for 10 years after the study has finished after which time any link between you and your information will be removed.

To safeguard your rights, we will use the minimum personal data necessary to achieve our research study objectives. Your data protection rights – such as to access, change, or transfer such information - may be limited, however, in order for the research output to be reliable and accurate. The University will not do anything with your personal data that you would not reasonably expect.

If you have any questions about how your personal data is used, or wish to exercise any of your rights, please consult the University's data protection webpage (https://www.southampton.ac.uk/legalservices/what-we-do/data-protection-and-foi.page) where you can make a request using our online form. If you need further assistance, please contact the University's Data Protection Officer (data.protection@soton.ac.uk).

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2.9.4 Appendix B.4. Example Wording of the Consent Form Presented to Participants During Phase One

Study title: Imagining a joint vision for how clinical psychology could address the climate and ecological emergency using story completion methodology

Researcher name: Georgia King

ERGO number: **79196**

Please indicate if you agree with the following statements:

	Yes	No
I have read and understood the participant information (version 3.2) and have had the opportunity to ask questions about the study.		
I confirm that I understand the link between the climate and ecological emergency and how this can impact mental health and wellbeing.		
I confirm that I am a: *(please choose all that apply)* • trainee psychologist (e.g. a trainee clinical psychologist), • practitioner psychologist (e.g. a clinical psychologist), • Climate activist , • retired practitioner psychologist, • None of the above		
Please indicate if you are a: • Trainee Clinical Psychologist • Trainee Counselling Psychologist • Trainee Educational Psychologist • Trainee Forensic Psychologist • Trainee Health Psychologist • Trainee Occupational Psychologist • Trainee Sport and Exercise Psychologist • Other (space to specify) Please indicate if you are a: • Clinical Psychologist • Counselling Psychologist • Educational Psychologist • Forensic Psychologist • Health Psychologist • Occupational Psychologist • Sport and Exercise Psychologist		

• Other (space to specify)		
I agree to take part in this study and understand that data collected during this research project will be used for the purpose of this study.		
I understand my participation is voluntary and I may withdraw (at any time) for any reason without my participation rights being affected.		
I understand that should I withdraw from the study then the information collected about me up to this point may still be used for the purposes of achieving the objectives of the study only.		
I understand that I will not be directly identified in any reports of the research.		

2.9.5 Appendix B.5. Example of the New Ecological Paradigm Scale (Dunlap et al., 2000) Presented to Participants During Phase One

Listed below are statements about the relationship between humans and the environment. For each one, please indicate whether you STRONGLY AGREE, MILDLY AGREE, are UNSURE, MILDLY DISAGREE or STRONGLY DISAGREE with it.

Do you agree or disagree that:

STRONGLY AGREE	MILDLY AGREE	UNSURE	MILDLY DISAGREE	STRONGLY DISAGREE

1. We are approaching the limit of the number of people the earth can support
2. Humans have the right to modify the natural environment to suit their needs
3. When humans interfere with nature it often produces disastrous consequences
4. Human ingenuity will ensure that we do NOT make the earth unlivable
5. Humans are severely abusing the environment
6. The earth has plenty of natural resources if we just learn how to develop them
7. Plants and animals have as much right as humans to exist
8. The balance of nature is strong enough to cope with the impacts of modern industrial nations
9. Despite our special abilities humans are still subject to the laws of nature
10. The so-called "ecological crisis" facing humankind has been greatly exaggerated
11. The earth is like a spaceship with very limited room and resources
12. Humans were meant to rule over the rest of nature
13. The balance of nature is very delicate and easily upset
14. Humans will eventually learn enough about how nature works to be able to control it
15. If things continue on their present course, we will soon experience a major ecological catastrophe

2.9.6 Appendix B.6. Example of the Value Orientation Scale (De Groot & Steg, 2008) Presented to Participants During Phase One

In this questionnaire you are to ask yourself: "What values are important to ME as guiding principles in MY life, and what values are less important to me?" You will see a list of values, and an explanation next to it that may help you to understand its meaning.

Your task is to rate how important each value is for you as a guiding principle in your life. Use the rating scale below:

-1 means the value is opposed to the principles that guide you.
0 means the value is not at all important, it is not relevant as a guiding principle for you.
3 means the value is important.
7 means the value is extremely important.

After each value, choose one number (-1, 0, 1, 2, 3, 4, 5, 6, 7) that indicates the importance of that value for you, personally. Try to distinguish as much as possible between the values by using all the numbers. You will, of course, need to use numbers more than once.

Try only to rate a few items at most as extremely important.

AS A GUIDING PRINCIPLE IN MY LIFE, this value is:

opposed to my values	not important			important			very important	extremely important
-1	0	1	2	3	4	5	6	7

1. Social power: control over others, dominance
2. Wealth: material possessions, money
3. Authority: the right to lead or command
4. Influential: having an impact on people and events
5. Equality: equal opportunity for all
6. A world at peace: free of war and conflict
7. Social justice: correcting injustice, care for the weak
8. Helpful: working for the welfare of others
9. Preventing pollution: protecting natural resources
10. Respecting the earth: harmony with other species
11. Unity with nature: fitting into nature
12. Protecting the environment: preserving nature

2.9.7 Appendix B.7. Example Wording of the Demographic Questions Presented to Participants During Phase One

What gender group best represents you?

- Female
- Male
- Transgender
- Other (space to specify)
- Prefer not to say

What is your age?

In which country do you reside?

What ethnic group best represents you?

- Asian – Bangladeshi
- Asian - Chinese
- Asian – Indian
- Asian – Pakistani
- Asian – other (space to specify)
- Black – African
- Black – Caribbean
- Black – other (space to specify)
- Mixed – White Asian
- Mixed – White and Black African
- Mixed – White and Black Caribbean
- Mixed – other (space to specify)
- White – British
- White – Gypsy, Roma or Irish Traveller
- White – Irish
- White – other (space to specify)
- Arab
- Other ethnic group (space to specify)
- Prefer not to say

2.9.8 Appendix B.8. Example Wording of the Debrief Form Presented to Participants During Phase One

Study Title: Imagining a joint vision for how clinical psychology could address the climate and ecological emergency using story completion methodology

Thank you for taking part in our research project. Your contribution is very valuable and greatly appreciated.

Purpose of the study

The aim of this research was to develop a vision (between climate concerned clinical psychologists and youth climate activists) of the role clinical psychology can play in mitigating the impacts of the climate and ecological emergency on mental health.

It is hoped that by taking part your thoughts have been stimulated as to how clinical psychology could be engaging in the climate and ecological emergency as a preventative measure for future distress. Your data will help us to create a vision of what clinical psychology could be, in which it supports people, as well as the planet.

Confidentiality

Results of this study will not include your name or any other identifying characteristics.

Study results

If you would like to receive a copy of the final written-up research findings then there is a space for you to indicate this at the bottom of the page.

Further support

Thinking about the climate and ecological emergency can bring up many difficult emotions and challenging thoughts. If taking part in this study has caused you discomfort or distress, you can contact the following organisations for support:

- **The Climate Psychology Alliance** can support people who are struggling with distress related to the climate and ecological emergency. You can find out more following this link: https://www.climatepsychologyalliance.org/index.php/find-support
- **The ACP-UK Climate Action Network** have compiled a list of resources for support in managing distress related to the climate and ecological emergency, which can be found here: https://assocclinpsy-my.sharepoint.com/:w:/g/personal/can_acpuk_org_uk/EZ1LA817bYJHjQBD0NMfufcBcR-2-fGiz2z1NKFIJeuULw?rtime=0NWJVM8Q20g

Further reading

If you would like to learn more about this area of research, you can refer to the following resources:

- **The ACP-UK Climate Action Network** have compiled a comprehensive list of resources which can be found here https://assocclinpsy-

my.sharepoint.com/:w:/g/personal/can_acpuk_org_uk/EZ1LA817bYJHjQBD0NMfufcBcR-2-fGiz2z1NKFIJeuULw?rtime=0NWJVM8Q20g

- **British Psychological Society, Division of Clinical Psychology** have a climate change working group - https://www.bps.org.uk/member-networks/division-clinical-psychology/climate-change
- **Royal College of Psychiatry's** have a Planetary Health and Sustainability Committee - https://www.rcpsych.ac.uk/improving-care/working-sustainably
- **The Climate Psychology Alliance** - https://www.climatepsychologyalliance.org/
- **The Global Psychology Alliance** - https://www.apa.org/international/networks/global-psychology-alliance
- **The UK Health Alliance on Climate Change** - https://ukhealthalliance.org/
- **The Greener NHS Programme** - https://www.england.nhs.uk/greenernhs/
- **Extinction Rebellion Psychologists** - https://xrpsychologists.co.uk/

Further information

If you have any concerns or questions about this study, please contact Georgia King at G.A.King@soton.ac.uk who will do their best to help.

If you remain unhappy or would like to make a formal complaint, please contact the Head of Research Integrity and Governance, University of Southampton, by emailing: rgoinfo@soton.ac.uk, or calling: + 44 2380 595058. Please quote the Ethics/ERGO number which can be found at the top of this form. Please note that if you participated in an anonymous survey, by making a complaint, you might be no longer anonymous.

Thank you again for your participation in this research.

2.9.9 REDACTED Appendix B.9.

2.9.10 Appendix B.10. Example Wording of the Participant Information Sheet Presented to Participants During Phase Two

Study Title: Imagining a joint vision for how clinical psychology could address the climate and ecological emergency using story completion methodology

Researcher: Georgia King

Supervisors: Dr Marc Williams, Dr Matthew Adams ad Dr Nick Maguire

ERGO number: 79716

Version: 4

What is the research about?

For my training to become a Doctor in Clinical Psychology at the University of Southampton, I am conducting research which explores how mental health services can meet the needs of people and the planet. As the impacts of the climate and ecological emergency on mental health and wellbeing becomes more understood, it is pertinent for clinical psychology to think about how it could prevent better such detrimental effects. Some psychologists are starting to understand that the wellbeing of this planet is integral to supporting the wellbeing of humans (known as planetary health).

This study seeks to understand how clinical psychology could mitigate the climate and ecological emergency; and be part of the wider interdisciplinary movement of upholding planetary health through creative story telling. I have been conducting a survey which has been collecting participant's individual responses. However, I also want to find out what is created when we collaboratively create stories.

Why have I been asked to participate?

You are invited to take part in a collaborative story telling workshop, which will form part of the BPS' DCP's 'Intergenerational Concerns into Climate Change: Psychology Perspectives' event on the 4th of December.

What will happen to me if I take part?

You will attend a 1.5 hour workshop where we will explore story completion methodology as a means to answer difficult questions about the climate and ecological emergency. You will be co-creating a story with fellow workshop attendees and sharing these stories with one another.

You will have been asked to read this information sheet, complete a consent form and answer a few questions relating to demographics and your environmental worldview, prior to attending the event.

Are there any benefits in my taking part?

By taking part in this research, you will be helping to create a vision of how clinical psychology could be engaging with the climate and ecological emergency as a preventative measure for future distress. I also hope it will be fun and engaging research to take part in.

Are there any risks involved?

Thinking about the state of our world can cause distress. Despite considering this risk minimal, since climate concerned individuals regularly contemplate the climate and ecological emergency. There

will be information at the end of the study about organisations that can offer support for climate related distress.

What information will be collected?

The final written story that your group creates will be saved in a password protected file on the University Southampton's server for analysis. Audio recordings will also be taken when the stories are being shared with one another and for the ending discussion. Since the stories, the telling of the stories and the discussions are all generated collaboratively it will not be possible to withdraw your contributions after taking part.

Before the event, demographic information (including, gender identity, ethnicity, age and country of residence) and information about your environmental world view will be collected after you complete the consent form. Your name will also be collected to check consent has been received for all participants prior to the event.

What will happen to the information collected?

Your participation and the information we collect about you during the research will be kept strictly confidential and will be anonymised. Only the researcher and their supervisors will have access to this information.

You can withdraw from the study at any time. Please contact the researcher, Georgia. Note, once analysis of the stories has begun it will not be possible to withdraw your specific story.

The information collected will be analysed and written up as part of my thesis. The research project will also be put forward for publishing meaning that the results may be published in a journal and/or forum for people to access. The University of Southampton conducts research to the highest standards of ethics and research integrity. In accordance with our Research Data Management Policy, data will be held for 10 years after the study has finished when it will be securely destroyed.

Where can I get more information?

Please email Georgia King at G.A.King@soton.ac.uk if you would like to find out more.

What happens if there is a problem?

If you have a concern about any aspect of this study, you should speak to the researchers who will do their best to answer your questions.

If you remain unhappy or have a complaint about any aspect of this study, please contact the University of Southampton Research Integrity and Governance Manager (023 8059 5058, rgoinfo@soton.ac.uk).

Thank you for taking the time to read this information sheet and considering whether to take part in my research. Please click on the arrow to continue to consent .

****

Data Protection Privacy Notice

The University of Southampton conducts research to the highest standards of research integrity. As a publicly-funded organisation, the University has to ensure that it is in the public interest when we use personally-identifiable information about people who have agreed to take part in research. This means that when you agree to take part in a research study, we will use information about you in the

ways needed, and for the purposes specified, to conduct and complete the research project. Under data protection law, 'Personal data' means any information that relates to and is capable of identifying a living individual. The University's data protection policy governing the use of personal data by the University can be found on its website (https://www.southampton.ac.uk/legalservices/what-we-do/data-protection-and-foi.page).

This Participant Information Sheet tells you what data will be collected for this project and whether this includes any personal data. Please ask the research team if you have any questions or are unclear what data is being collected about you.

Our privacy notice for research participants provides more information on how the University of Southampton collects and uses your personal data when you take part in one of our research projects and can be found at http://www.southampton.ac.uk/assets/sharepoint/intranet/ls/Public/Research%20and%20Integrity%20Privacy%20Notice/Privacy%20Notice%20for%20Research%20Participants.pdf

Any personal data we collect in this study will be used only for the purposes of carrying out our research and will be handled according to the University's policies in line with data protection law. If any personal data is used from which you can be identified directly, it will not be disclosed to anyone else without your consent unless the University of Southampton is required by law to disclose it.

Data protection law requires us to have a valid legal reason ('lawful basis') to process and use your Personal data. The lawful basis for processing personal information in this research study is for the performance of a task carried out in the public interest. Personal data collected for research will not be used for any other purpose.

For the purposes of data protection law, the University of Southampton is the 'Data Controller' for this study, which means that we are responsible for looking after your information and using it properly. The University of Southampton will keep identifiable information about you for 10 years after the study has finished after which time any link between you and your information will be removed.

To safeguard your rights, we will use the minimum personal data necessary to achieve our research study objectives. Your data protection rights – such as to access, change, or transfer such information - may be limited, however, in order for the research output to be reliable and accurate. The University will not do anything with your personal data that you would not reasonably expect.

If you have any questions about how your personal data is used, or wish to exercise any of your rights, please consult the University's data protection webpage (https://www.southampton.ac.uk/legalservices/what-we-do/data-protection-and-foi.page) where you can make a request using our online form. If you need further assistance, please contact the University's Data Protection Officer (data.protection@soton.ac.uk).

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2.9.11 Appendix B.11. Example Wording of the Consent Form Presented to Participants During Phase Two

[30/10/2023] [v5.0]

Study title: Imagining a joint vision for how clinical psychology could address the climate and ecological emergency using story completion methodology

Researcher name: Georgia King

ERGO number: **79196**

Please indicate if you agree with the following statements:

INSERT NAME:	Yes	No
I have read and understood the participant information (version 4) and have had the opportunity to ask questions about the study.		
I confirm that I am a: *(please choose all that apply)* • trainee psychologist (e.g. a trainee clinical psychologist), • practitioner psychologist (e.g. a clinical psychologist), • Climate activist , • retired practitioner psychologist, • None of the above (space to specify occupation)		
Please indicate if you are a: • Trainee Clinical Psychologist • Trainee Counselling Psychologist • Trainee Educational Psychologist • Trainee Forensic Psychologist • Trainee Health Psychologist • Trainee Occupational Psychologist • Trainee Sport and Exercise Psychologist • Other (space to specify)		
Please indicate if you are a: • Clinical Psychologist • Counselling Psychologist • Educational Psychologist • Forensic Psychologist • Health Psychologist • Occupational Psychologist • Sport and Exercise Psychologist • Other (space to specify)		
I agree to take part in this study and understand that data collected during this research project will be used for the purpose of this study.		

I understand my participation is voluntary and I may withdraw (at any time) for any reason without my participation rights being affected.		
I understand that should I withdraw from the study then the information collected about me up to this point may still be used for the purposes of achieving the objectives of the study only.		
I understand that I will not be directly identified in any reports of the research.		
I agree to maintaining the confidentiality of others who take part in the workshop.		
I understand that taking part in the workshop interviews involves audio recording which will be transcribed and then destroyed for the purposes set out in the participation information.		

2.9.12 Appendix B.12. Example Wording of the Debrief Form Presented to Participants During Phase Two

[17/02/2023] [v1.0]

Debriefing Form – Phase 2
Study Title: Imagining a joint vision for how clinical psychology could address the climate and ecological emergency using story completion methodology
Ethics/ERGO number: 79196
Researcher(s): Georgia King, Marc Williams, Matthew Adams, Nick Maguire
University email(s): G.A.King@soton.ac.uk , williamsm93@cardiff.ac.uk , Matthew.Adams@brighton.ac.uk , nick.maguire@soton.ac.uk
Version and date: v1.0, 17/02/2023
Thank you for taking part in our research project. Your contribution is very valuable and greatly appreciated.
Purpose of the study
The aim of this research was to develop a vision (between climate concerned clinical psychologists and youth climate activists) of the role clinical psychology can play in mitigating the impacts of the climate and ecological emergency on mental health. This study also aimed to use story completion methodology in a novel manner.
It is hoped that by taking part your thoughts have been stimulated as to how clinical psychology could be engaging in the climate and ecological emergency as a preventative measure for future distress. Your data will help us to create a vision of what clinical psychology could be, in which it supports people, as well as the planet.
Confidentiality
Results of this study will not include your name or any other identifying characteristics.
As part of your participation in this study involved the group workshop, your confidentiality cannot be guaranteed. We kindly ask you to respect the privacy of other participants and not to disclose what was said and by whom during the discussion.
Study results
If you would like to receive a copy of the final summary of the research findings when it is completed and you did not specify this on the consent form, please let us know by using the contact details provided on this form.
Further support
Thinking about the climate and ecological emergency can bring up many difficult emotions and challenging thoughts. If taking part in this study has caused you discomfort or distress, you can contact the following organisations for support:
- **The Climate Psychology Alliance** can support people who are struggling with distress related to the climate and ecological emergency. You can find out more following this link: https://www.climatepsychologyalliance.org/index.php/find-support
- **The ACP-UK Climate Action Network** have compiled a list of resources for support in managing distress related to the climate and ecological emergency, which can be found here: https://assocclinpsy-my.sharepoint.com/:w:/g/personal/can_acpuk_org_uk/EZ1LA817bYJHjQBD0NMfufcBcR-2-fGiz2z1NKFIJeuULw?rtime=0NWJVM8Q20g
Further reading
If you would like to learn more about this area of research, you can refer to the following resources:
- **The ACP-UK Climate Action Network** have compiled a comprehensive list of resources which can be found here https://assocclinpsy-my.sharepoint.com/:w:/g/personal/can_acpuk_org_uk/EZ1LA817bYJHjQBD0NMfufcBcR-2-fGiz2z1NKFIJeuULw?rtime=0NWJVM8Q20g

- **British Psychological Society, Division of Clinical Psychology** have a climate change working group - https://www.bps.org.uk/member-networks/division-clinical-psychology/climate-change

- **Royal College of Psychiatry's** have a Planetary Health and Sustainability Committee - https://www.rcpsych.ac.uk/improving-care/working-sustainably

- **The Climate Psychology Alliance** - https://www.climatepsychologyalliance.org/

- The Global Psychology Alliance - https://www.apa.org/international/networks/global-psychology-alliance

- The UK Health Alliance on Climate Change - https://ukhealthalliance.org/

- The Greener NHS Programme - https://www.england.nhs.uk/greenernhs/

- Extinction Rebellion Psychologists - https://xrpsychologists.co.uk/

Further information

If you have any concerns or questions about this study, please contact Georgia King at G.A.King@soton.ac.uk who will do their best to help.

If you remain unhappy or would like to make a formal complaint, please contact the Head of Research Integrity and Governance, University of Southampton, by emailing: rgoinfo@soton.ac.uk, or calling: + 44 2380 595058. Please quote the Ethics/ERGO number which can be found at the top of this form. Please note that if you participated in an anonymous survey, by making a complaint, you might be no longer anonymous.

Thank you again for your participation in this research.

2.9.13 Appendix B.13. Thematic Analysis Code Book

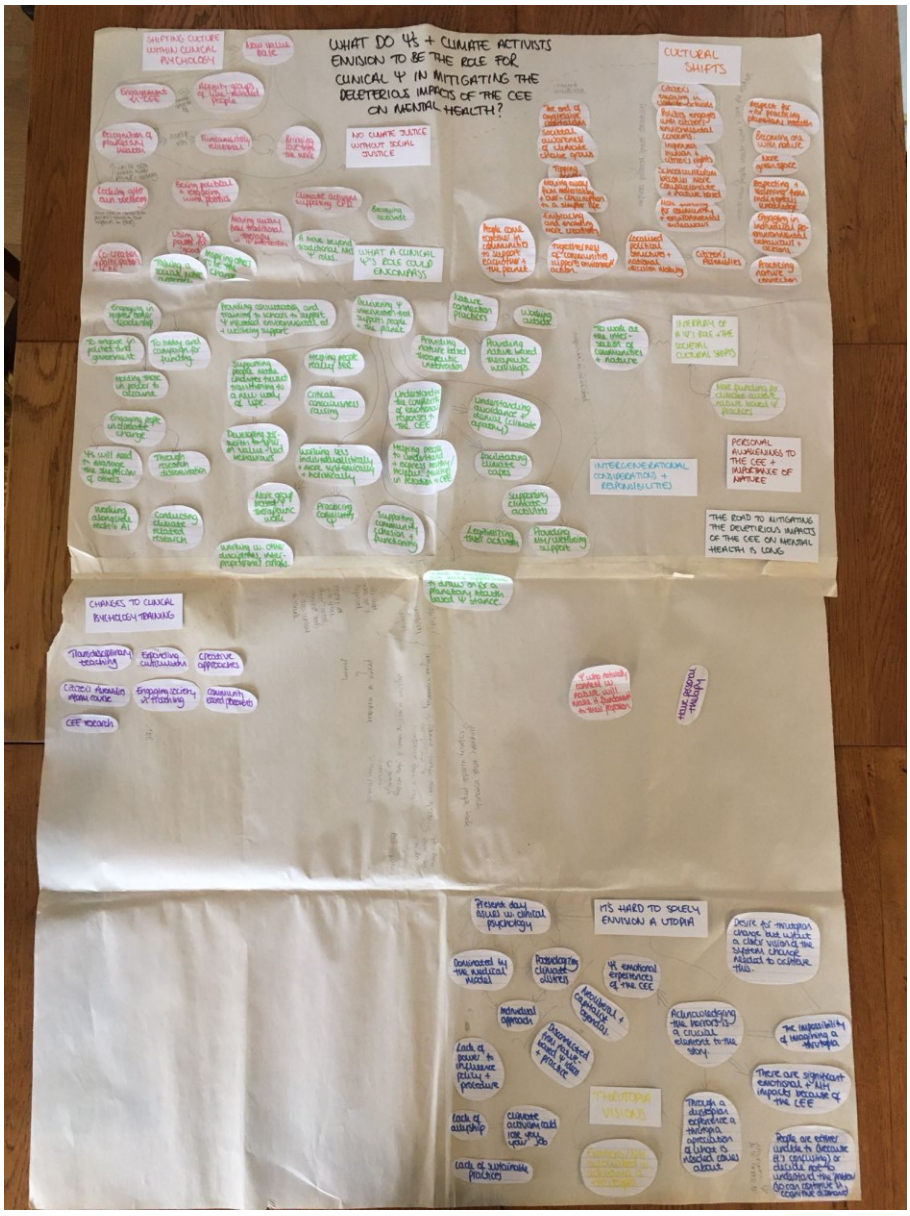
Theme	Codes	Sub-codes
Acknowledge is the First Step	Acknowledging the horrors is a crucial element to the story	Planetary degradation
		Social constructs
	There are significant emotional and mental health impacts because of CEE	Grief and loss
		Active hope
	Present day issues with clinical psychology	Disconnected from nature based psychological ideas and practice
		Dominated by the medical model
		Individualistic approach
		Lack of allyship
		Engaging in climate activism could lose you your job
		Lack of power to influence policies etc.
		Lack of regenerative or sustainable practices or systems
		Neoliberal and capitalist agendas
		Pathologizing climate distress
	It's hard solely to envision a utopia	Getting stuck in dystopian narratives
		Through a dystopian experience a thrutopian appreciation of what is needed comes about
	Psychologists' personal awakenings to the CEE and importance of nature	
	Societal awakening	
Engagement in the CEE is Part of Creating a Role	Engagement in CEE	Recognition of planetary health and nature-connection
		Affinity groups of likeminded people
	Psychologists' emotional experiences of the CEE	
	Engaging people in climate change	psychologists will need to manage the scepticism of others
		through conducting climate related research and dissemination
	Societal awareness of climate change grows	
	Barriers to engagement	Cognitive dissonance
	Supporting complex emotional responses to the CEE	helping people to understand and express healthy or helpful feelings in relation to the CEE
		understanding avoidance, denial (climate apathy) etc.

Going forth in union	Living more simply	Societal shift of - moving away from materialism and over-consumption to living more simply Supporting people make changes towards transitioning to a new way of life Helping people really see (psychologists will work to raise critical consciousness)
	Growing appreciation for nature	Societal shift of - respect for or practicing planetary health and nature connection providing nature based therapeutic intervention to provide nature based therapeutic workshops and training
	Importance of community	Societal shift of - people coming together in communities to support each other and the planet Culture of compassion Supporting community cohesion and functioning Work less individualistically (more group based therapeutic work) Practicing community psychology Taking a fundamentally relational approach Working with other disciplines, inter-professionally, collaboratively
	To work at the intersection of communities and nature	
	More room for climate activism	Societal shift of - citizen's engaging in climate activism (Success of or positive impacts from climate activism) Becoming activist (climate activism supporting professional development) Supporting climate activists - developing self-worth and self-belief so to trust in their actions - developing self-worth to spur on value led behaviour - providing training for effective and co-operative activism - psychologists can 'legitimise' and focus the work of activists - supporting climate activists with their mental health so that they can continue with climate activism - to maintain 'regenerative cultures'

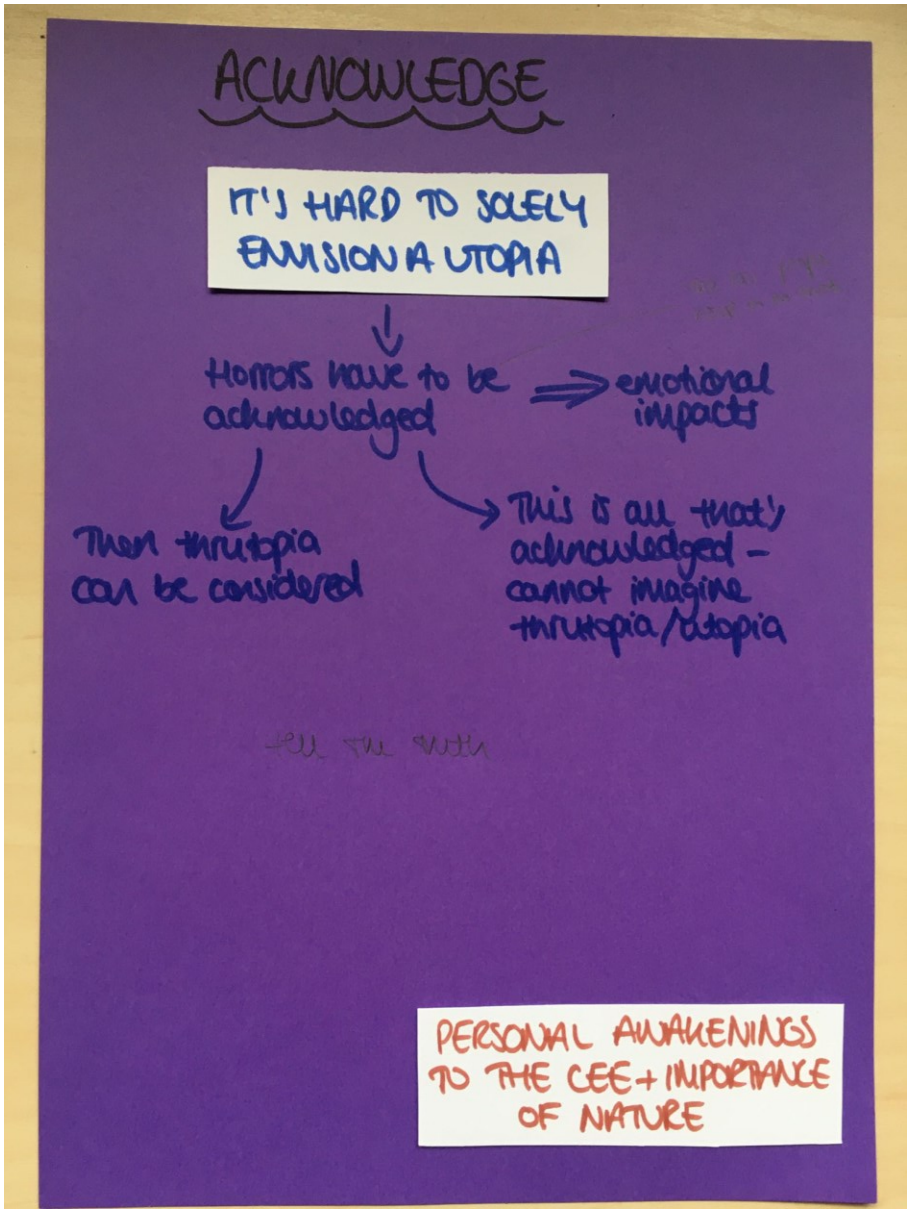
Challenging Political Landscape and Relating to Leaders	Being political and engaging with politics To lobby and campaign for funding More funding for community and environmental endeavours Political consultation and advocation Societal shift - localised political structures and national decision making Flattened hierarchies Community or Citizen's assemblies Relinquishing expert role
No climate justice without social justice	
Move away from traditional therapy	Working alongside technology and AI
Thrutopia visions	Desire for thrutopian change but without a clear vision of the system change needed to achieve this Creativity Emotions associated with achieving a thrutopia and resulting impacts on mental health

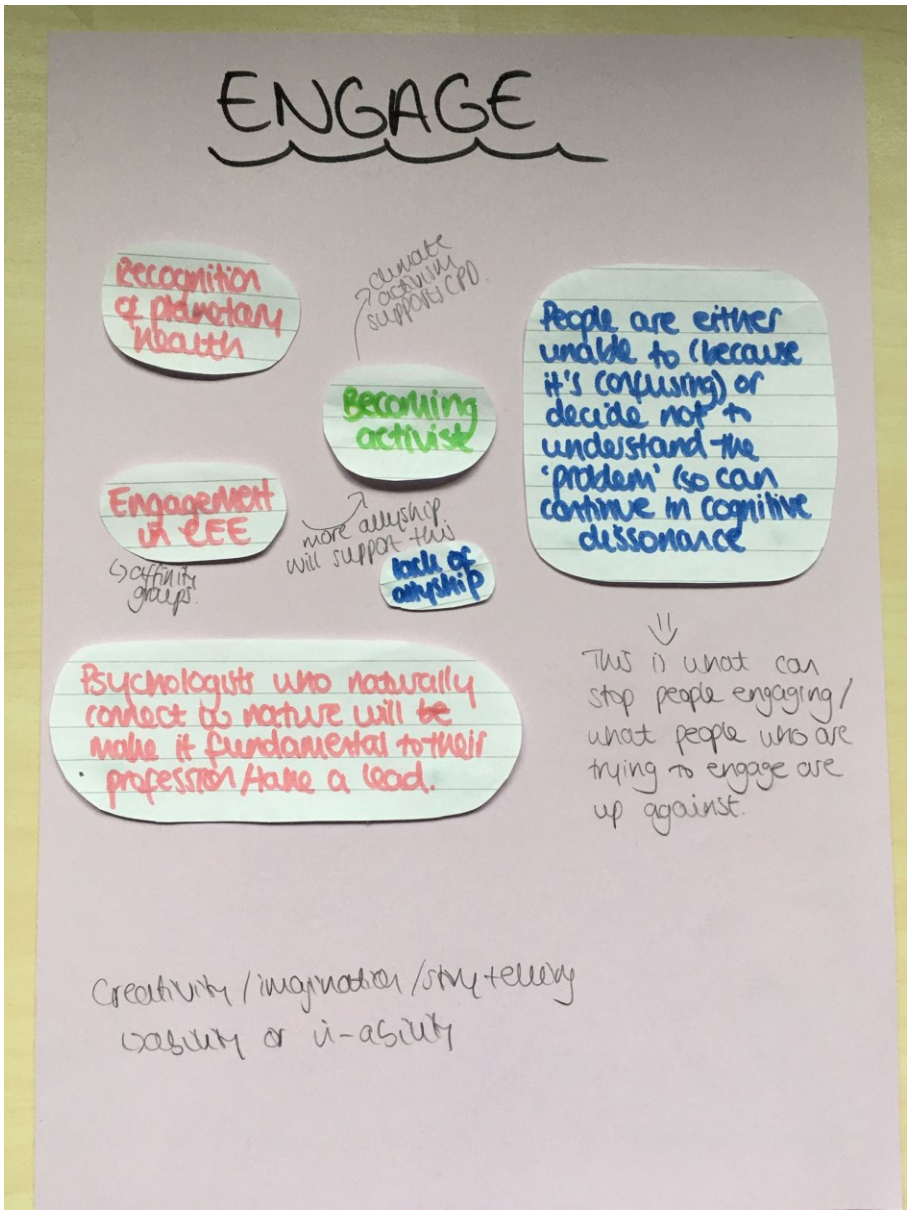
2.9.14 Appendix B.14. Development of Thematic Map in Pictures

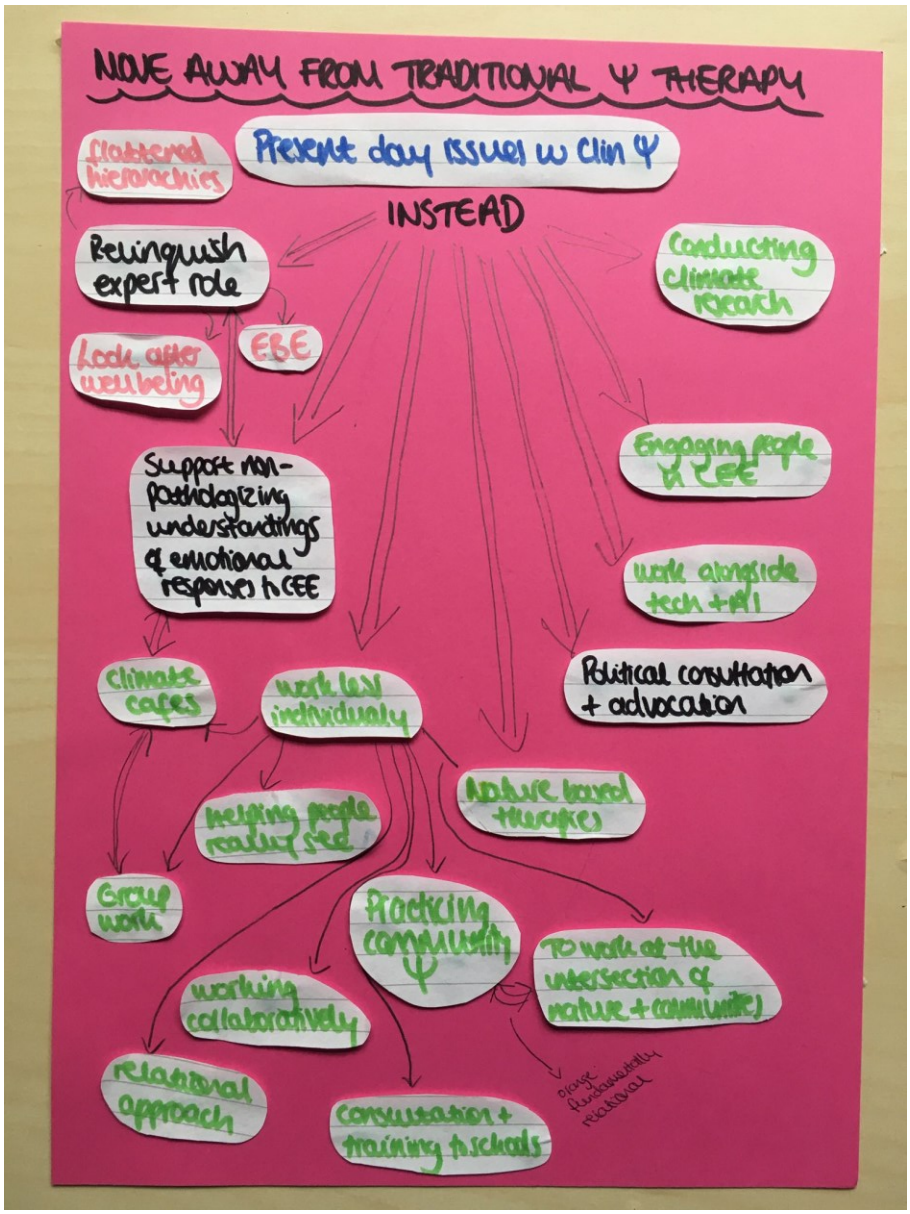
Stage 1: Categorisation of codes

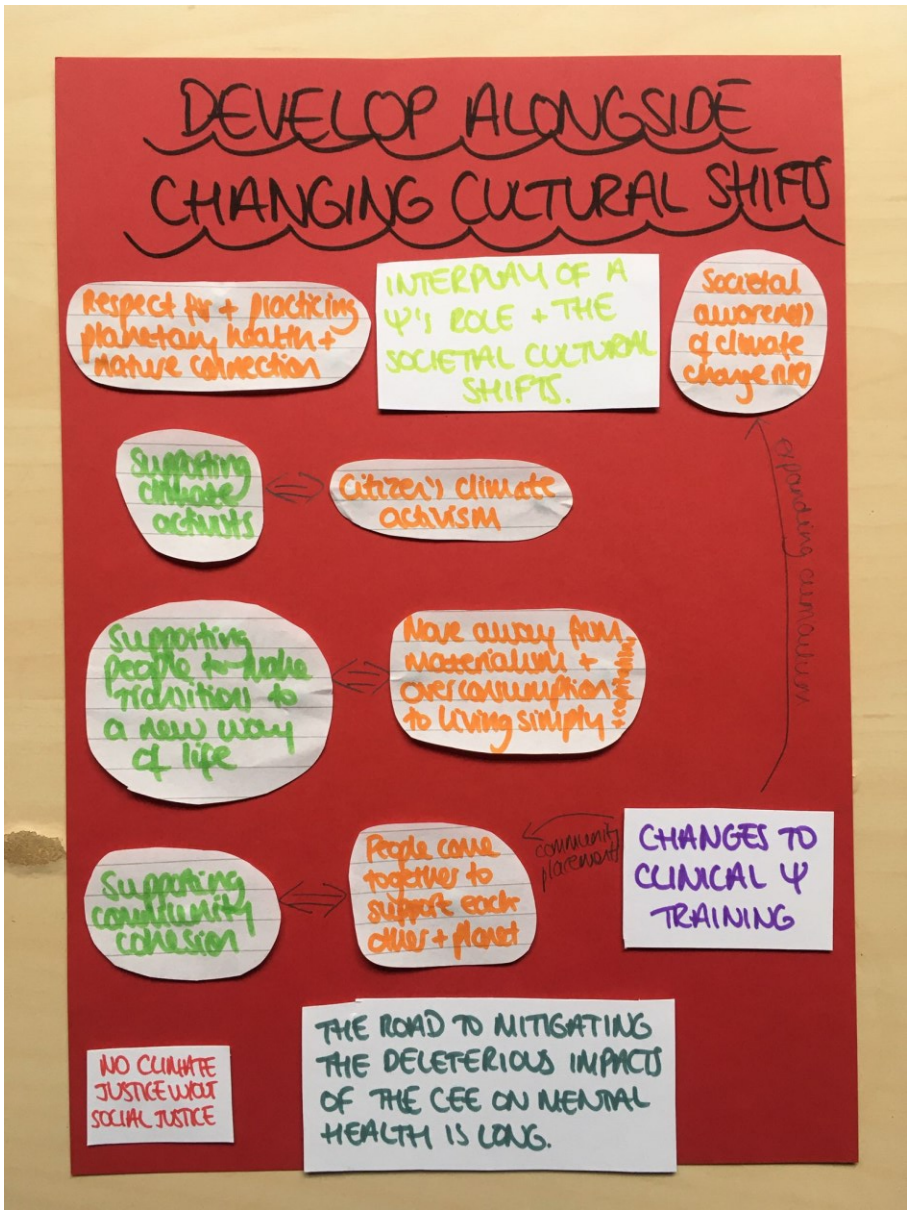


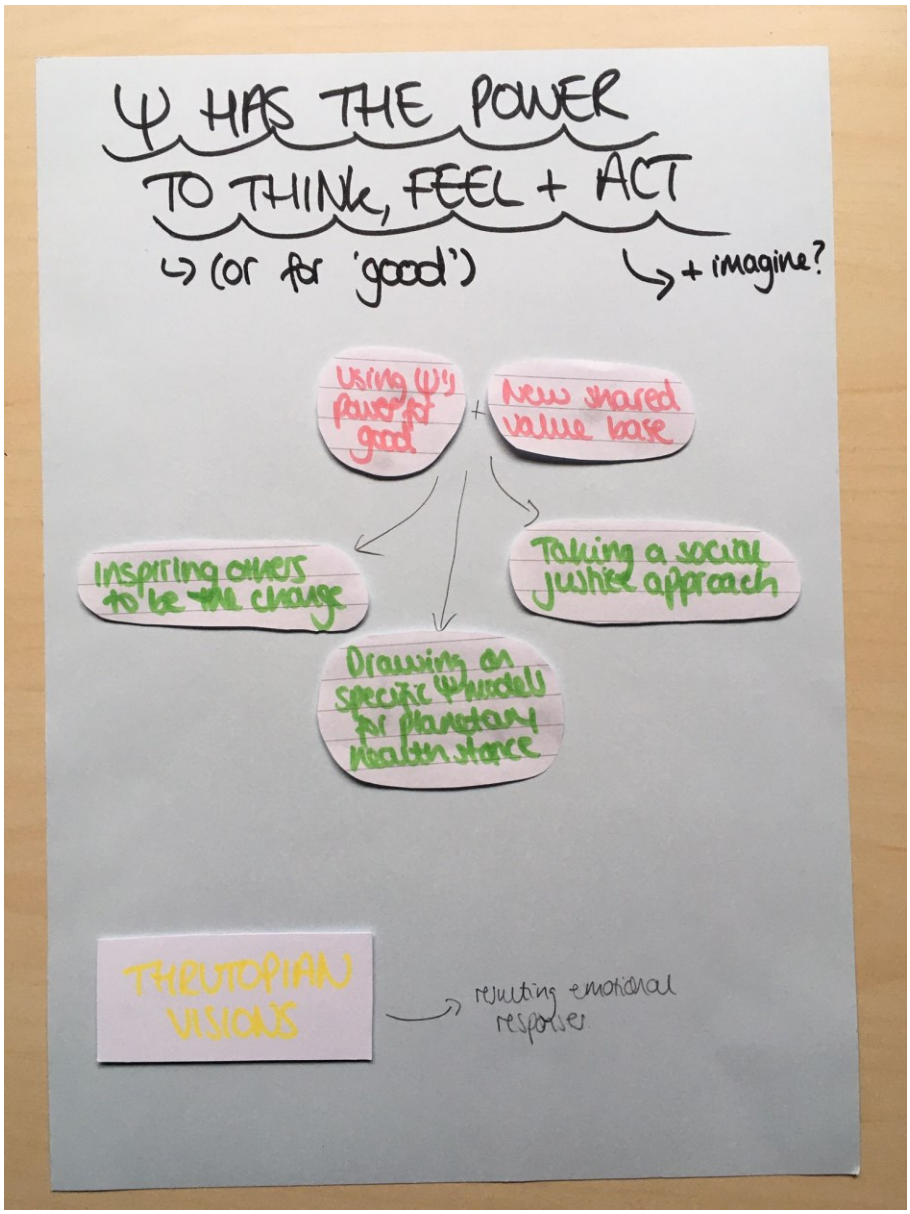
Stage 2: Development of themes



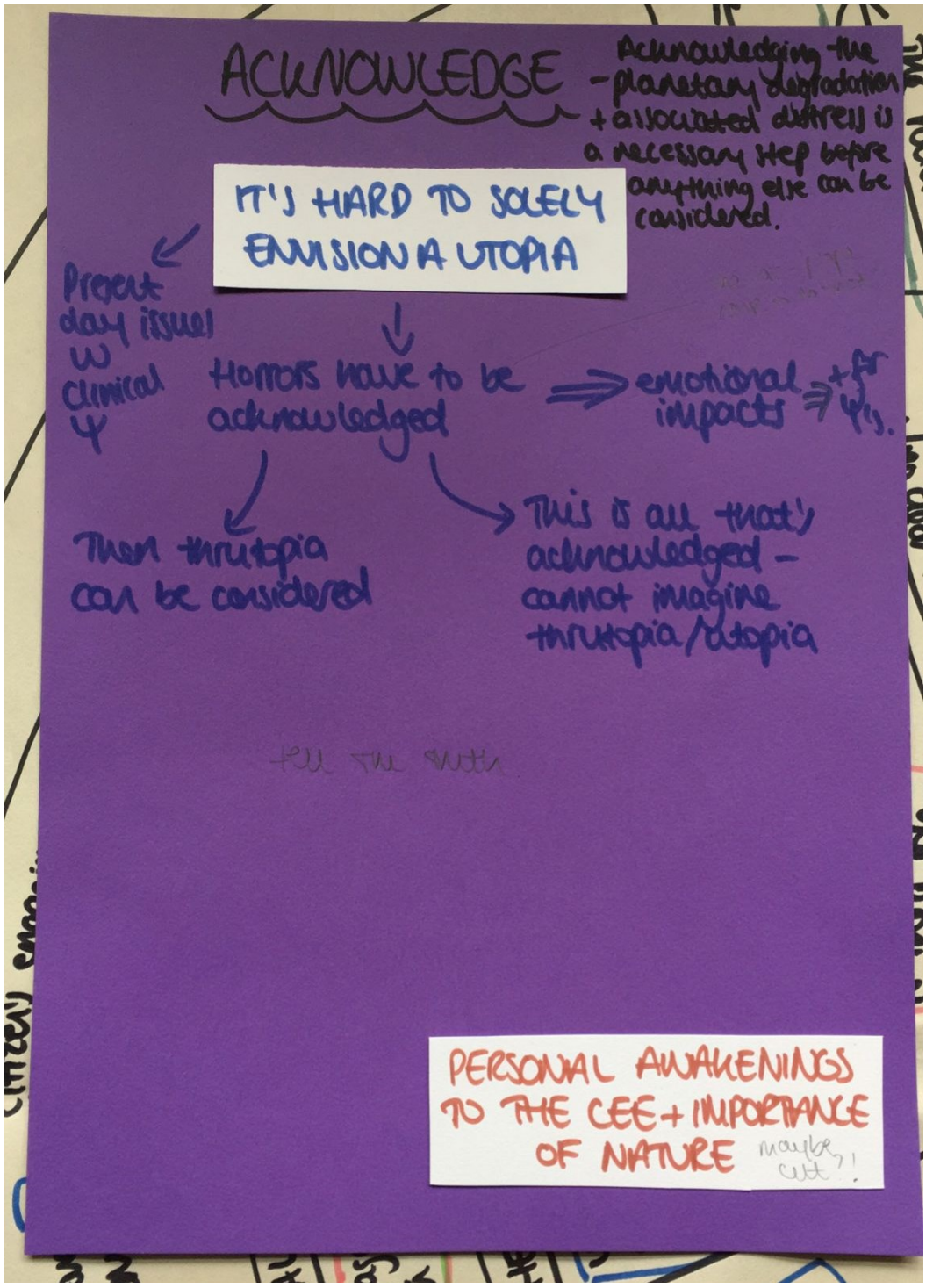

ENGAGE
Recognition of planetary health
climate activism supports CPD
Becoming activist
Engagement in EEE
affinity groups
more allyship will support this
lack of allyship
People are either unable to (because it's confusing) or decide not to understand the 'problem' (so can continue in cognitive dissonance
This is what can stop people engaging/ what people who are trying to engage are up against.
Psychologists who naturally connect to nature will be make it fundamental to their profession/have a lead.
Creativity / imagination / storytelling
validity or in-validity

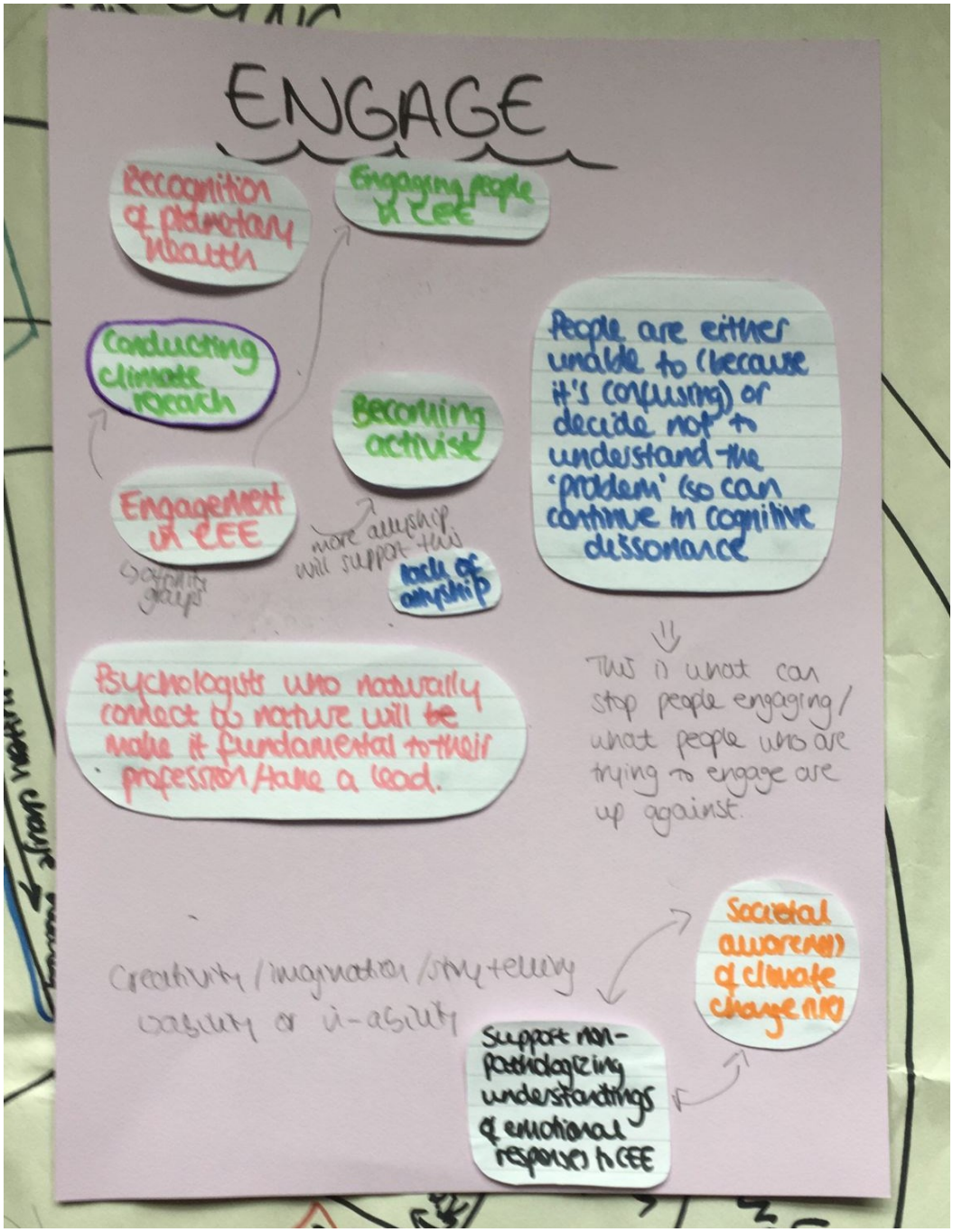

MOVE AWAY FROM TRADITIONAL Ψ THERAPY
flattened hierarchies
Present day issues w Clin Ψ
INSTEAD
Relinquish expert role
Conducting climate research
Look after wellbeing
EBE
Support non-pathologizing understandings of emotional responses to CEE
Engaging people w CEE
work alongside tech + AI
Climate cafes
work less individually
Political consultation + advocation
Nature based therapies
Group work
Rocking community Ψ
To work at the intersection of nature + community
working collaboratively
relational approach
consultation + training to schools

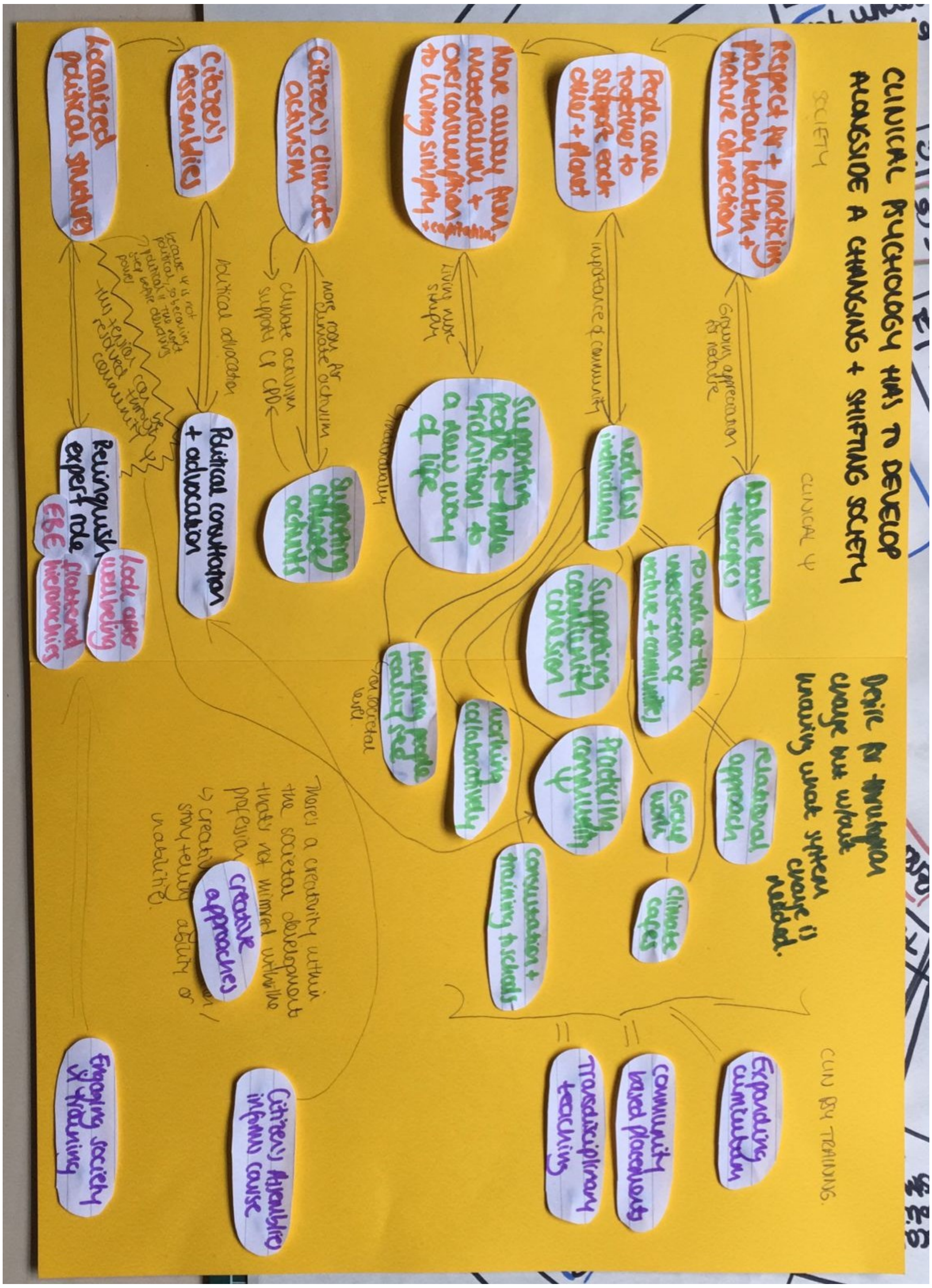

DEVELOP ALONGSIDE CHANGING CULTURAL SHIFTS
Respect for + practicing planetary health + nature connection
INTERPLAY OF A Ψ's ROLE + THE SOCIETAL CULTURAL SHIFTS.
Societal awareness of climate change
Supporting climate activists
Citizen's climate activism
Supportive people to make transition to a new way of life
Move away from materialism + overconsumption to living simply
People come together to support each other + planet
Supporting community cohesion
CHANGES TO CLINICAL Ψ TRAINING
THE ROAD TO MITIGATING THE DELETERIOUS IMPACTS OF THE CEE ON MENTAL HEALTH IS LONG.
NO CLIMATE JUSTICE WITHOUT SOCIAL JUSTICE


Ψ HAS THE POWER
TO THINK, FEEL + ACT
↳ (or for 'good')
↳ + imagine?
using Ψ's power for good
+
new shared value base
inspiring others to be the change
taking a social justice approach
drawing on specific Ψ models for planetary health stance
THEUTOPIAN VISIONS
→ resulting emotional responses

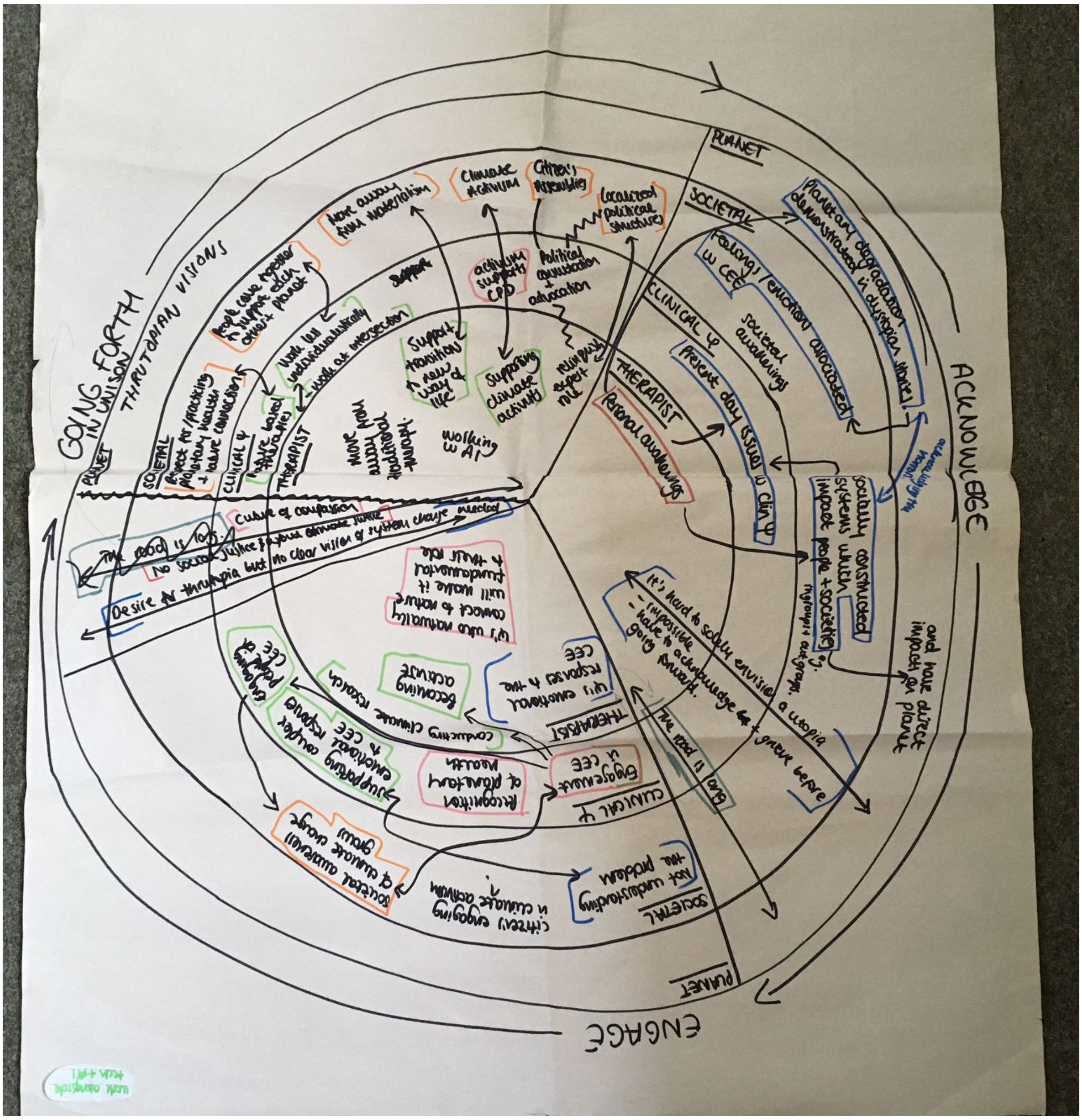
Stage 3: Refinement of themes



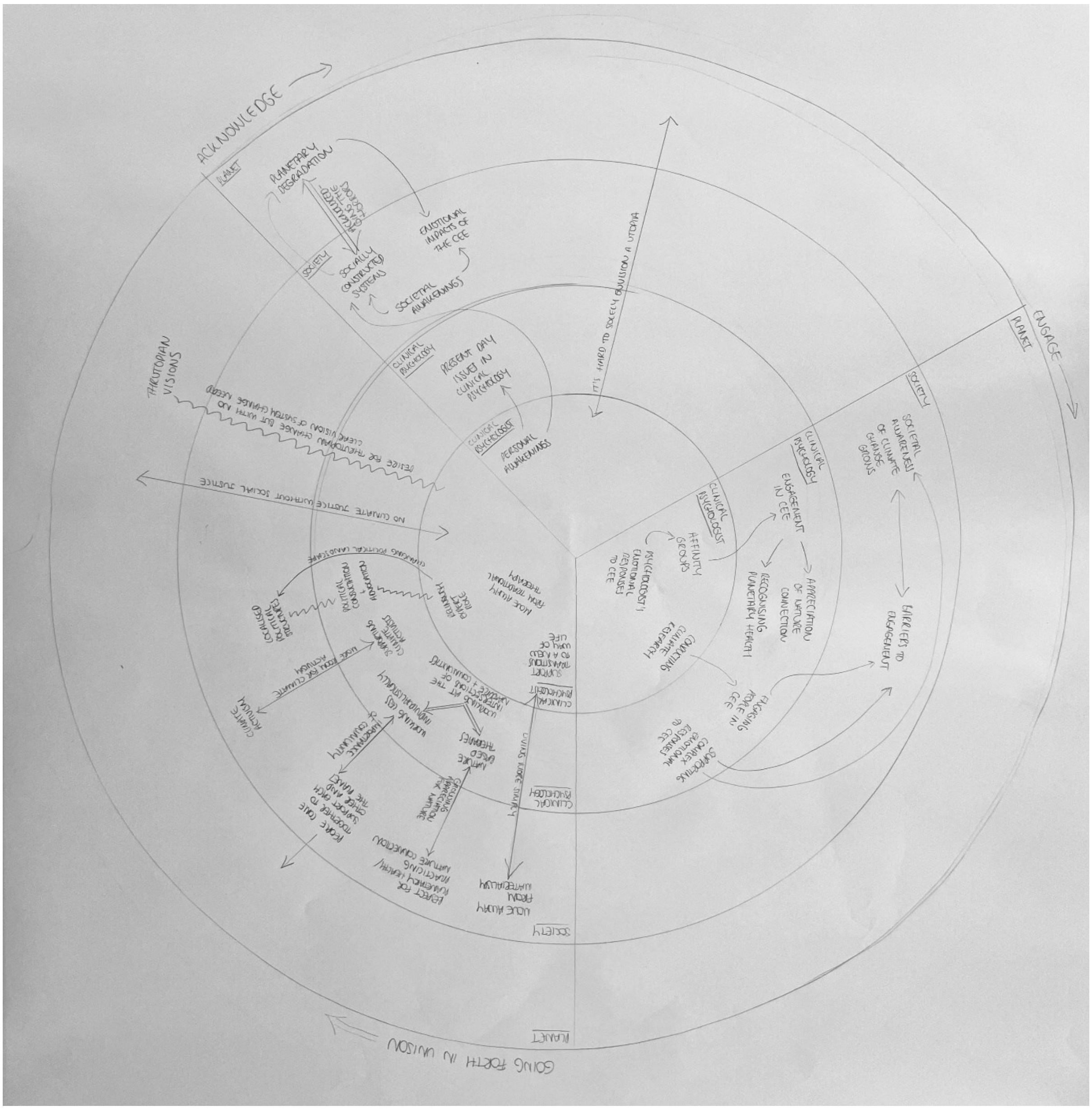

ENGAGE
Recognition of planetary health
Engaging people in CEE
Conducting climate research
Becoming activist
Engagement in CEE
more allyship will support this
lack of allyship
People are either unable to (because it's confusing) or decide not to understand the 'problem' (so can continue in cognitive dissonance
This is what can stop people engaging/ what people who are trying to engage are up against.
Psychologists who naturally connect to nature will be make it fundamental to their profession/have a lead.
Societal awareness of climate change n/c
Support non-pathologizing understandings of emotional responses to CEE


CLINICAL PSYCHOLOGY HAS TO DEVELOP ALONGSIDE A CHANGING + SHIFTING SOCIETY
SOCIETY
CLINICAL Ψ
CLIN PSY TRAINING.
Respect for + protecting planetary health + nature connection
People come together to support each other + planet
Citizen's climate activism
Citizen's Assemblies
Localised political structures
Nature based therapies
Supporting people to make transitions to a new way of life
Supporting climate activists
Political consultation + advocation
Relinquish expert role
EbE
Look after wellbeing
Flattened hierarchies
Supporting community cohesion
Working collaboratively
Relational approach
Group work
Climate cafes
Consultation + training to schools
Expanding curriculum
Community based placements
Transdisciplinary teaching
Citizen's Assemblies inform course
Engaging society in training
Creative approaches

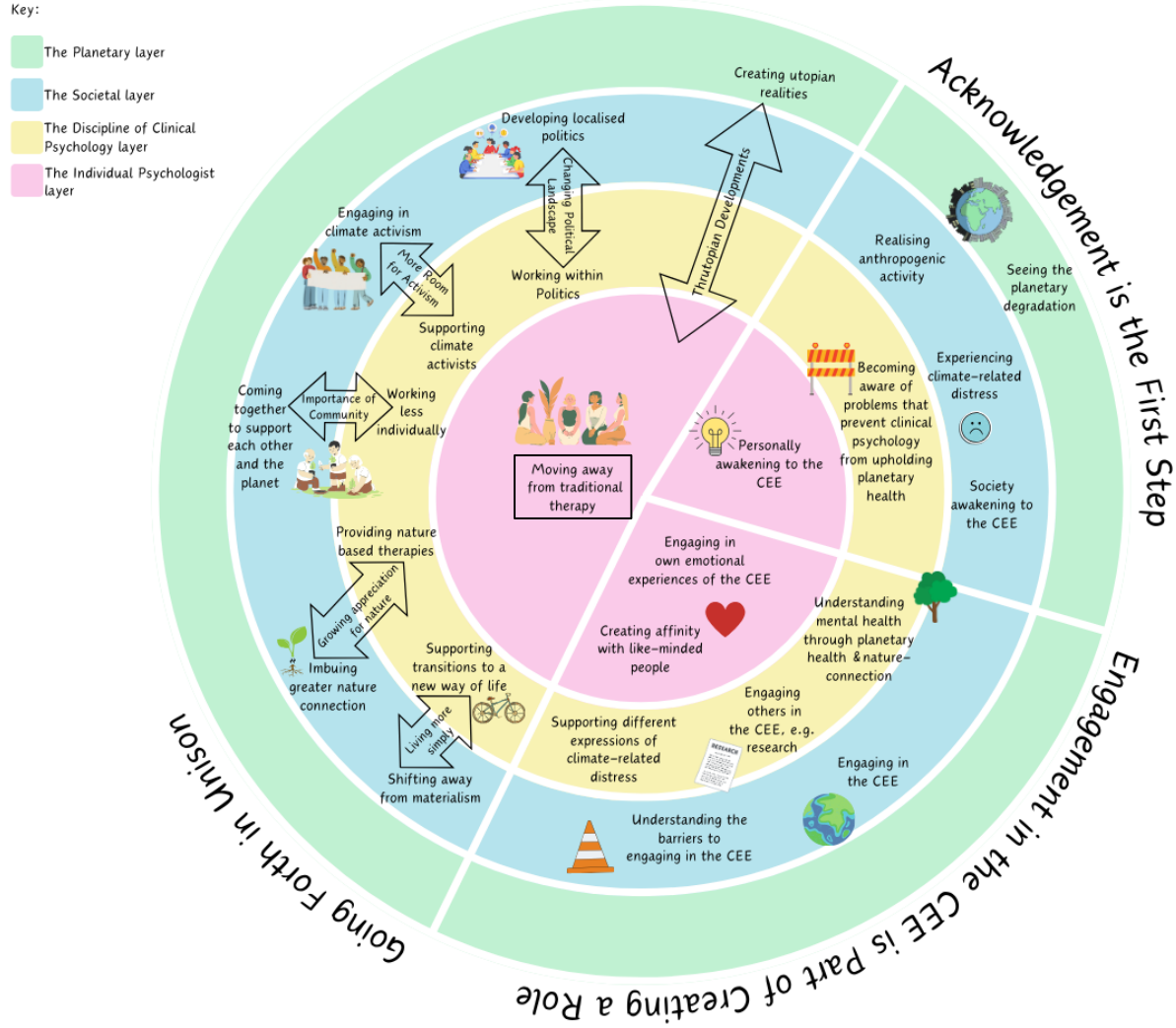
Stage 4: Creation of a comprehensive thematic map, used as a basis for writing up.



Stage 5. Consolidation of thematic map



Stage 6. Simplified version of the final thematic map



2.9.15 REDACTED Appendix B.15. Reflective Journal Excerpt

2.9.16 REDACTED Appendix B.16. Reflective Journal Excerpt on Participant Feedback