

# Chasing balloons as scientific practice: On transformative co-creation and epistemic ethics of care in the emerging field of youth citizen social science

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**Abstract:** How does including youth in research within a citizen social science framework challenge and transform our participatory action research practices and approaches? Through a storytelling journey we unravel how the training and subsequent conducting of a co-creative research process with young citizen social scientists are evolving from a cacophony of traditions, approaches and disciplines, among them youth participatory action research, action research in organizations, citizen science and social anthropology. The article is based on empirical research with a group of young people in Oslo, Norway, involved in a large collaborative citizen social science project on social inclusion of youth in Europe. We have witnessed closely how an *epistemic ethics of care* is integral to securing the *epistemic justice* of youth and argue that citizen social science can promote both epistemic justice and *epistemic abundance* by including youth in all parts of a rigorous research process that produces new scientific knowledge. Yet, we found that performing an ethics of care is (close to) impossible within the current conditions and structures of social sciences, as our ideals and views on what science is, delimit the practices of relational care necessary for inclusive processes. The implications of our findings call for an ethics of care framework for both citizen social science and action research practices.

**Key words:** Youth, ethics of care, citizen social science, action research, co-creation

## **La persecución de globos como práctica científica: Sobre la co-creación transformadora y la ética relacional del cuidado en el emergente campo de las ciencias sociales ciudadanas desarrolladas por personas jóvenes**

**Resumen:** ¿Cómo desafía y transforma nuestras prácticas y enfoques de investigación de acción participativa la inclusión de jóvenes en la investigación dentro de un marco de ciencia social ciudadana? A través de un viaje narrativo desentrañamos cómo la formación y posterior realización de un proceso de investigación co-creativa basada en la ciencia social ciudadana con jóvenes están evolucionando en el marco de una cacofonía de tradiciones, enfoques y disciplinas. Entre ellas destacan la investigación-acción participativa juvenil, la investigación-acción en organizaciones, la ciencia ciudadana y la antropología social. El artículo se basa en una investigación empírica con un grupo de jóvenes de Oslo, Noruega, involucrados en un gran proyecto colaborativo de ciencias sociales ciudadanas sobre la inclusión social de los jóvenes en Europa. Hemos sido testigos de cómo una ética epistémica del cuidado es un elemento integral de la justicia epistémica de la juventud y argumentamos que las ciencias sociales ciudadanas pueden promover tanto la justicia epistémica como la abundancia epistémica al incluir a la juventud en todas las fases de un proceso de investigación riguroso que produce nuevo conocimiento científico. Sin embargo, descubrimos que llevar a cabo una ética

del cuidado es (casi) imposible dentro de las condiciones y estructuras actuales de las ciencias sociales, ya que nuestros ideales y puntos de vista sobre lo que es la ciencia delimitan las prácticas de cuidado relacional necesarias para procesos inclusivos. Las implicaciones de nuestros hallazgos exigen un marco de ética del cuidado tanto para las ciencias sociales ciudadanas como para las prácticas de investigación-acción.

**Palabras clave:** Juventud, ética del cuidado, ciencias sociales ciudadanas, investigación-acción, co-creación

## Prologue

Frederick (research assistant): How does it feel today?

Maryam (Youth Citizen Social Scientist, YCSS): It was a lot of fun, actually. I'm a little impressed too. That we have come this far. At the start I was like, shit, I am not able to come up with any ideas. And look where we are now. So, I like it, it's fun. I am very lucky to have been a part of it.

Frederick: And we are lucky to have you with us.

### 1. Walking an article: An invitation to a storying journey

How should we write this article, I, Aina, ask my colleague Sara. She looks at me with indetermination written in her face and hesitates before answering. “Maybe use the IMRaD model?” The what model?, I reply. “The IMRaD model, the way they taught us in the interdisciplinary writing course at the university. Introduction, Method..., what was the R?”, Sara ponders. We look at each other, skeptically. No, that’s not something we were taught as students in social anthropology. The discipline that hails the empirical narratives before all else and that treats theory as the necessary, but invisible soft nails weaving meaning from the stories people “tell” us by living their daily lives. Let’s do it our way, meaning we will experiment with form and process simultaneously<sup>1</sup>, by developing our thoughts alongside our writing, thus exposing our “bumpy road” experiences of facilitating for a co-creative citizen social science process with youth belonging to an inner city district in Oslo; Norway, in rhythmic interference with (urban) nature and our material surroundings. We will practice narrative inquiry as an ethical commitment towards making meanings move<sup>2</sup>, with the intent of finding the story in the experience<sup>3</sup> and making mindfully sense of the processes together<sup>4</sup>. We therefore invite you, the reader, as a co-participant of this research story, in “thinking with, not about”<sup>5</sup> what science and scientists are “becoming with”<sup>6</sup> when engaging with non-academic interlocutors as partners – and sometimes leaders (we will get back to this provoking

1 Tolstad et al. 2017, Hagen & Osuldsen 2021.

2 Bochner & Herrmann 2020.

3 Stone 1997.

4 Weick et al. 1999, Bradbury et al. 2019.

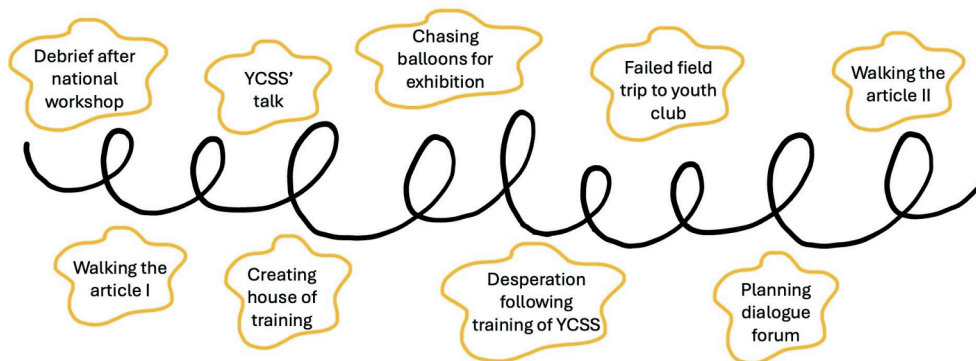
5 Bochner & Herrmann 2020:298.

6 Haraway 2008.

notion) of a research process inspired by participatory action research yet conducted within a citizen social science framework.<sup>7</sup>

Something was troubling us, when faced with the task of writing it all up. But what? To find out, the next day, I, Aina, put on walking shoes, pack my favorite swim suit and water bottle in a small bag, I walk towards the beach, the Oslo fjord, the water, I walk and swim in cold, salt water, I let the sun dry me up, before I walk further, walk through the woods, the forest, the beaches and the people sunbathing, roaming, walking their dogs. I walk this article. I think and walk and think and stop at old, wooden benches to write down key words or even some sentences, my thoughts, ideas, I walk further, up a hill, behind a newly painted house, down a hill, across a sandy beach. The article walks with me, brain wise. Or I walk with it, as it surfaces, slowly first, then in jumps and intensely when I reach the end of the convoluted path, in line with my thoughts on how our planet is literally and metaphorically burning while we, its inhabitants, seemingly go on as if everything was normal. How can science practices and science learning *not* be transformative in such conflicting times?<sup>8</sup> The intellectual dissonance resonates with the hybrid sensation of thinking-walking ideas in a hilly terrain in the face of a journal deadline. To make it easier for you to follow our wayfaring, we provide you with a visual of our storying process (see Figure 1).

Figure 1: The storyline of this article, with narrative milestones as guidance for the journey.



Hold on to the feeling of dissonance. Let's revisit the dialogue quoted in the prologue, where research assistant Frederick engages Maryam, one of the young citizen social scientists, in this dedicated space for critical and emotional reflexivity we called "debriefs".<sup>9</sup> It took place in a meeting room at the local museum where we had just held the final Living Lab of our citizen social science project *YouCount: Empowering youth and cocreating social innovations and policy-making through youth citizen social science*, engaging local, regional, and national stakeholders in creative interaction with the findings from almost two years of co-research in a district municipality in Oslo. The goal of the event, that we called a "national workshop" in our design of the YouCount project, was to come up with ideas for social innovations that could lead to social inclusion of youth in Norway, through introducing quality youth jobs in

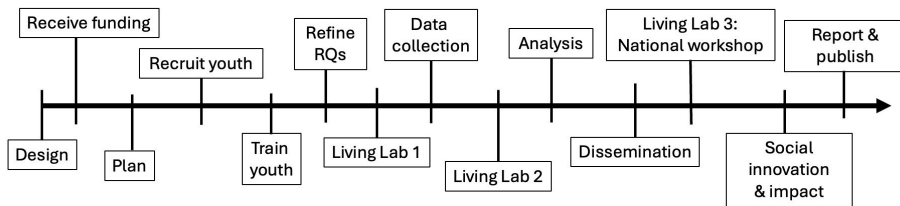
7 Canto-Farachala & Norvoll 2023.

8 López-López et al. 2021.

9 Bradbury et al. 2019, Cunliffe et al. 2020, Aabye et al. 2020.

local neighborhoods. Now we had gathered, this diverse group of youth, social scientists, and students, in a debrief, to make collectively sense of it all. This event was the last engagement planned in a series of training sessions, data collection initiatives, dialogue forums and living labs with young and adult stakeholders, analysis, dissemination, and ideation workshops involving a group of 12 young citizens that were hired to be part of our research team in the YouCount project (see Figure 2).

Figure 2: A timeline of the YouCount project from design and planning to finalizing the project (2017 – 2024), as perceived by the Norwegian team.



The youth all had minority backgrounds, reflecting the demographics in the district, and were between 14 and 21 years when we recruited them in the winter of 2022. Maryam was pinpointing what emerged as a shared experience, that we all had come a long way from the outset – and that we felt lucky (and quite exhausted) to have been of part of this process. We finally felt like a team. It took 18 months. This is where the dissonance surfaces.

Frederick (research assistant): I'm absolutely impressed with all of us, and I'm a little heartbroken that I'm going to quit and start a new job, but...

Aina (researcher): You will become a stakeholder!

Frederick: I will become a stakeholder. (laughter) Yes, I think so. It must be yes.

The process of writing up our reflections and realizations in hindsight became a surprisingly lonely and painful affair, going from our participatory ideal of “all in” to an “all alone” mode of thinking-working. These debrief snippets of which you will encounter again, became companions in our attempts to move the chaotic experiences of co-researching into meaning, through an explorative, narrative inquiry of this recently completed citizen social science endeavor. Our colleagues were already on new projects or engaged in new jobs, our young co-researchers were radio-silent on the messenger channel, we guessed enmeshed in social and educational commitments elsewhere. We took hold of the imprints of their former presence, namely transcripts from these debriefs done after co-created sessions with local stakeholders, and in desperation engaged in embodied, rather than collective, sensemaking through walking the familiar, physical surroundings of our nature-city. After all, encountering stories experi-

entially, privileging the standpoint of the storyteller(s), is an ethical and relational question, a means of being with others, of thinking with their stories in order to witness, understand, and care for them.<sup>10</sup>

This is why walking the article needs to be included in this research storytelling of which you, the reader, are a co-participant. Making sense of a process of transformation one is also initiator of, is a messy, non-linear process, entangled in the invisible labor, relational and emotional work of inclusion.<sup>11</sup> Our experience of dissonance led to a growing realization, which is also this articles' main message: We need a relational ethics of care integrated in the design of our science processes. Another realization quickly follows the first: Performing an ethics of care is (close to) impossible within the current conditions and structures of social sciences, particularly if you simultaneously engage in undoing *epistemic injustice*<sup>12</sup>.

## 2. Epistemic injustice, epistemic deficiency, and ethics of care

Half of the world's population is now 30 years or younger. The proportion of young people is expected to reach 57 per cent by the end of 2030 and this is the largest generation of young people in history.<sup>13</sup> Still, young people are, we claim, as a collective exposed to epistemic injustice, "a wrong done to someone specifically in their capacity as a knower"<sup>14</sup>. Amina, one of the young citizen social scientists in our team, a young girl in her early twenties, held a talk at an international conference during the YouCount project's first year:

"I feel like I am in this huge group of people that are being studied constantly, always talked about and the media pulling out all these statistics. But nobody has really asked me what I think of it. I mean I am Muslim, I live in Tøyen, I used to live in Grønland, I'm black, and my parents are immigrants, but anybody who reads media and anybody who reads any source of science paper might think that they have an idea of who I am. (...) that's why we need projects like YouCount so we can get information directly from the source."

Looking back at her message from that day we see that she was addressing the ongoing epistemic injustice done by social scientists towards young people living in these areas of Oslo, and by also addressing faith, skin color, territorial and citizen status she adds layers to the age discrimination dominant in Western society. In the municipal sub districts Tøyen and Grønland, most of the youth have multicultural, minority background, with parents from the Global South – the young citizen social scientists were mainly children of immigrants from Northern African countries. These youth face epistemic injustice not just because they are subject to unfair judgement due to prejudice, social injustice, and discrimination, but also because they are not included as stakeholders of the knowledge produced on their own group or invited as epistemic partners in providing that knowledge.<sup>15</sup> The adult population's tendency to take children and youth perspectives and experiences for granted, is giving them a secondary status in science<sup>16</sup>, amplified by their upbringing in the divided city of Oslo.<sup>17</sup>

10 Bochner & Herrmann 2020:295–296.

11 Ahmed 2012.

12 Byskov 2020.

13 UN Climate Change News, 12 August 2023.

14 Fricker 2007:1 in Gélineau et al. 2024.

15 Byskov 2020.

16 Alderson & Morrow 2011, Gravesen et al. 2019.

17 Brattbakk 2023.

Including youth in the knowledge generating processes would therefore be a necessary, first step for undoing this wrong. But what are the tools available to us?

Alternative science traditions like action research and citizen science are motivated largely by an *epistemic deficiency*, as there is a lack of certain kinds of data and knowledge that these approaches strive to obtain through close engagement with stakeholders and citizens respectively. These approaches thus highlight a need for institutional change within science, and call for an extended epistemology of knowing as part of a participatory paradigm.<sup>18</sup>

*Participatory Action Research* and *Citizen Social Science* are both offsets from these alternative traditions of opening science to society (and society to science). These approaches are rather motivated by correcting epistemic injustice and thus highlight a need for social change. Including youth in such endeavors is a challenge that some in the Participatory Action Research community have already taken on, under the heading Youth Participatory Action Research (YPAR)<sup>19</sup>, where youth “contribute to the problem definition and carry out data collection tasks”, yet rarely being involved in the analysis of the results<sup>20</sup>.

If one views Action Research as an orientation towards *inquiry* for gaining knowledge on an identified need for action, with the aim of institutional change<sup>21</sup>, PAR projects center on a community focus with research questions emerging from a collective endeavor to find the needs for action, aiming for social change<sup>22</sup>. In YPAR, when working with youth, the emphasis on building youth science literacy is even stronger, through continuous training and non-scientific relationship building, often using arts-based methods as a way of engaging and connecting with the youth’s emotions and subjectivities.<sup>23</sup>

Being action researchers centers our scientific endeavors on doing ‘with’ rather than doing ‘for’ when conducting research<sup>24</sup>, and this resonates with the newly emerging approach of citizen *social science*.<sup>25</sup> Questions that action researchers pose to themselves on a regular basis, is also now reflected upon by more conventional social scientists, as they invite citizens into their research process as full-fledged participants: Who gets to produce knowledge? Who gets to question standard scientific approaches? Who gets to invent new methodologies? Who gets to design research processes? Or, in the spirit of this article’s exploratory format, a question that will make sense as you, the reader, make meaning as you move on reading; Can chasing balloons all over the city be called research?

In earlier YPAR projects we have witnessed closely how an *epistemic ethics of care* is integral to securing epistemic justice. In contrast to the action research we are familiar with, both YPAR and citizen social science aim to include the participating youth in *becoming like researchers*, through training, for them to acquire science literacy as part of the co-research process.<sup>26</sup> With co-creative youth citizen social science (YCSS) we also promote *epistemic abundance* by including youth in all parts of a rigorous research process that produces new scientific knowledge. The need for providing training, support for data collection, analysis, dissemination, and social impact – in caring ways, is even more acute. This approach is most

18 Heron and Reason 1997 in Cunliffe et al. 2020.

19 Cahill 2007, Cammarota & Fine 2008, Kennan & Dolan 2017, Pech et al. 2019, Goessling et al. 2019.

20 Chiaravalloti et al (2022, p.2).

21 Reason and Bradbury 2006.

22 Schwantz 2008.

23 Jacques et al. 2013, Leavy 2015, Johnson 2017, Capous-Desyllas & Morgaine 2018, Lewin & Shaw 2022.

24 Greenwood & Levin 2007:1.

25 Albert et al. 2021.

26 Solé et al. 2023.

certainly complexifying things instead of reducing reality's complexity.<sup>27</sup> Still, there is a lack of examples and experience sharing on how to do this science involvement of youth in practice.<sup>28</sup> So, let's share.

### 3. Complexifying research processes: Creating the house of training

“What if we use a house as a metaphor to visualize the training process?”. I, Sara, find myself standing before a poster covered in colorful post-its, surrounded by my colleagues in a meeting room by the fjord, south of Oslo. Our task is to create a framework for training youth to become citizen social scientists, a framework for all ten case studies in nine European countries partnering in this Horizon 2020 funded research project. We have close to two full days to achieve what seems rather impossible. We decided to go to a remote location, away from the buzz of the capital and the rigor of the scientific institutions we are trying to dismantle through this YCSS co-creation process. In the same way we try to escape the above-mentioned “IMRaD” format, we aim to transcend established scientific practices. The “IMRaD” format refers to a paper structured by four main sections; Introduction, Methods, Results, and Discussion, and is a structure originating from planned, systematic research in laboratories. The rigor in such traditional scientific formats, methods, and approaches postulate that the researcher should strive to be “dis-attached” from the messiness of the everyday life of the people they are studying and “clean up” the complexities their observations are exposing. We need the exact opposite. We urgently need to complexify.

It feels desperate, reckless, for us to create this thing, these training strategies, from scratch. We have promised EU/the partners/our coordinator Reidun a “framework” but don't really know what that means. Who are we to do this? Imposter syndrome is looming. Like most action researchers, we have never learned how to do action research as part of our higher education, we instead mimic senior colleagues doing it.<sup>29</sup> We have no script for or literature “on how to educate action researchers (...) there is no systematic presentation on how to impart those skills in academic settings”.<sup>30</sup> We do the only thing possible; we start off by writing down all our ideas and thoughts on what a framework for training should entail, drawing up on our diverse experiences.<sup>31</sup> In previous projects, our research primarily focused on youth participation in urban planning. We have also conducted several socio-cultural site analysis, inspired by human geography,<sup>32</sup> where we have combined anthropological methods with methods for increased participation of public and private sector employees and collective creativity among adult professionals.<sup>33</sup> We have trained youths in fieldwork methodology, and they have done mini fieldwork exercises such as participant observation and interviews in their own neighbourhoods before using this data to create new ideas for developing their immediate surroundings.<sup>34</sup> We have designed drawing techniques that were later used in

27 Tsoukas 2016.

28 Shamrova & Cummings 2017, Trondsen & Eriksen 2019.

29 Reason & Bradbury 2006, Kemmis & Wilkinson 1998.

30 Greenwood and Levin 2007: 239.

31 Tolstad et al. 2017, Hagen & Lyng 2019, Hagen & Andersen 2021.

32 Brattbakk et al. 2015, 2017.

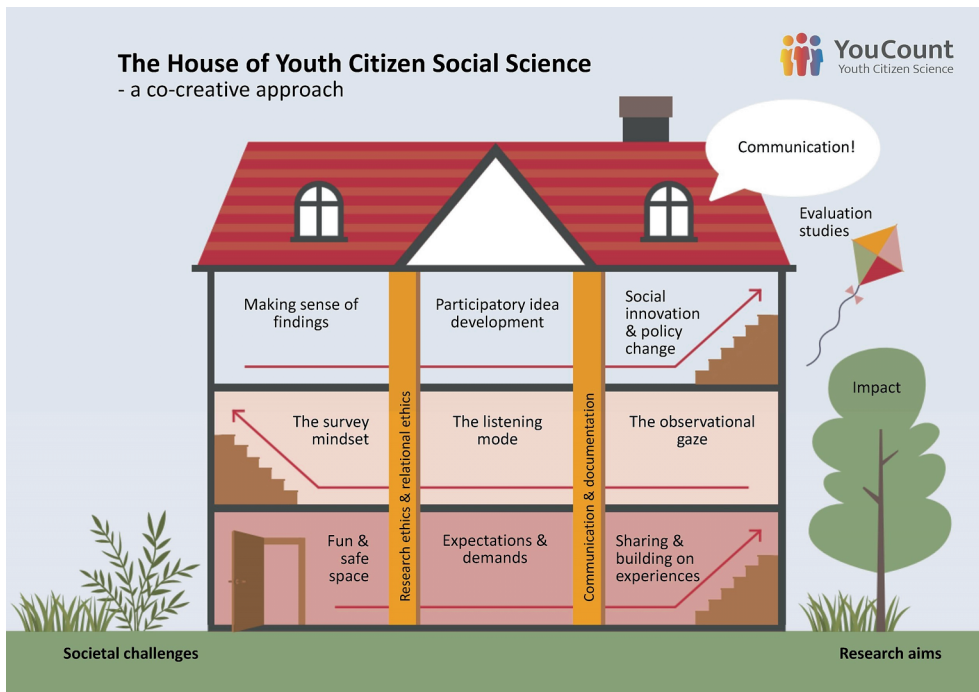
33 Carlsen et al. 2012a, 2012b.

34 Hagen & Andersen 2021.

narrative embroidery and narrative photography.<sup>35</sup> We have experienced first-hand how the emotional and subjective needs to be at the core of the relationships we build with the involved youth.<sup>36</sup>

By invoking the collective memories of all these past projects, we quickly discover that we have so much more stuff in our disciplinary baggage than we first imagined, to help us in building a citizen *social* science project that is *not* a complementary reaction to citizen science projects within natural sciences.<sup>37</sup> In most citizen *social* science projects, it is not about hypothesis testing or hobby-based engagement around the issues of migrating birds or endangered frogs, where citizens are consulting systematically.<sup>38</sup> It is rather research on social issues of concern to local communities, where citizens are engaging in science and society collaborations on both knowledge generation *and* efforts for social change.<sup>39</sup>

Figure 3: The initial model we called the House of Training was later developed into the House of Youth Citizen Social Science, encompassing all phases of a CSS project (Borgström et al. 2024). What is not included in this model is the pre-phase of designing and acquiring funding for a CSS project.



35 Vestby 2015, 2020.

36 Hagen & Osuldsen 2021.

37 Burawoy 2005, Housley et al. 2014, Albert et al. 2021.

38 Purdam 2014, Bonney et al. 2014.

39 Canto-Farachala & Norvoll 2023.

The model of the house (see Figure 3) is structured across three floors, each housing three rooms, along with an attic and an outdoor area. On the ground floor, you'll find "Fun & safe space", "Expectations and demands" and "Our own experiences". These rooms constitute the foundational structure of the house – essential elements that we see as important to be established *before* we start to train the youths in social science research methods. The emphasis on tensions and everyday emotions as integral parts of the action research process<sup>40</sup>, is thus guiding the design of our framework, a scaffolding for linking experience with sense-making and connecting reflection to action.<sup>41</sup> Drawing on our experiences facilitating various co-creation processes involving youth, we see this as a fundamental element for establishing a productive and creative atmosphere where everyone feels encouraged to openly contribute their ideas and thoughts, with the aim of achieving epistemic abundance.

Additionally, all youth we have worked with possess a lot of experiences from school and in their life that are relevant to the research they are about to undertake. "Our own experiences" is thus part of the ground floor to recognize the importance of allocating time for the youth to share, document and prepare to build on these experiences before starting the methods training phase. This is also done to give the youth "license to think"<sup>42</sup>, emphasizing the epistemic contributions they make *even before* we start collecting data and they transition into full-fledged citizen social scientists, to equip them with the skills to turn on "the survey mindset", "the listening mode" and "the observational gaze" of data collection.

We debated, when designing the House of Training, where ethics should be placed in such a generative metaphor. It surfaced as a matter of importance. Rather than making research ethics and communication into fdesignated "rooms", we chose to make them the load-bearing beams of the house, showing that they are the foundational pillars of the entire process. Essentially, this entails incorporating practical tasks related to ethics and documentation into every aspect of the training and subsequent data collection. It also reflects our position from social anthropology where the question of who is in control at any moment of fieldwork should be replaced with a question of who or what takes responsibility for setting things, ideas, and people in motion. The ethical is present in all situations, all the time, as something immanent in us humans.<sup>43</sup>

It is precisely the episodic nature of the phenomenon that gives us the opportunity to be ethical in the field without following a predetermined moral code. This goes also for engagement with young participants as citizen social scientists. We are engaging in situational and relational ethics, both as collaborators and as researchers. This double bind makes an ethics of care necessary to include as a relational practice of "doing good" towards all involved in research, rather than a research ethics of "do no harm" that is applied only in situations of data collection. This approach to ethics influences our storytelling process and necessitates this alternative, rather chaotically combined project and storying timeline (see Figure 4).

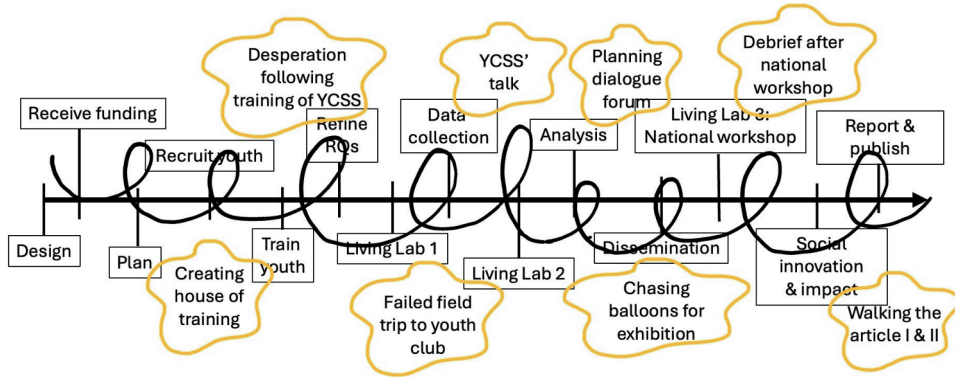
40 Aaby et al. 2021, Cunliffe et al. 2020, Gearty and Marshall 2020.

41 Bradbury et al. 2019:6.

42 Westrum 1993:404.

43 Lempert in Laidlaw 2014.

Figure 4: The storytelling timeline fused with the research design timeline of the YouCount Norway project. The narrative milestones are emphasized in yellow blobs.



To better make sense of our experience-based realization, we need to dive into one of the main learnings from the YouCount project, on how the form and output of research results should be as engaging and creative as the content and process – and what toll that takes for the researcher.

#### 4. Desperation, part I: The messiness of it all, or on chasing balloons

Two weeks before the debrief after the national workshop I, Aina, jump on my bike, a sunny Monday in the city center of Oslo, people walking, cars and buses turning corners, I juggle through the streets with electric speed. The feeling I have in my gut is far from fantastic. Running up the moving stairs of a local hardware store, again. This time chasing for strips of led lights to decorate the ceiling of the first “prison cell” at the Intercultural Museum (IKM), on popular demand by the co-researching youth. Their ideas turned into sweat and purchases, we are creating this vision together – I think. We started with a set of shoe boxes, to translate our findings into visual and tangible elements that would preferably excite both ourselves and the potential audience, the visitors of our social science exhibition at this former police station turned museum.

The familiar sensation of desperation is creeping into my physical self. We are building an exhibition in this local museum as a “dialogue forum”, another deliverable in the YouCount project. The goal of the exhibition is to convey the results from the numerous interviews, surveys, mappings, and observations we have done together with the YCSS. Will the other partners in YouCount acknowledge our efforts? Will Patricia, the Work Package leader in charge of participatory communication efforts, nod with appreciation when we meet her at the next consortium meeting? Will they see through our attempts at “delivering” on a task that we quite frankly don’t really understand? I inhale fresh exhaust from the roaming cars and feel the sweat trickle. One more stop, we need balloons. More balloons, blue to inspire imaginaries of an endless open sky of possibilities when the results from the co-research on youth’s access to

employment are put into national policy. The balloons we put up yesterday are already shrinking, and in a few hours the team will welcome invited guests to the exhibition opening.

Desperation, chaos, and serendipity are potent ingredients in this transdisciplinary mix of action research-as-(precarious) labour, and precisely the ingredients of research that we continue to hide and smooth over – both when we write about our results and the process to get there. So how did it go? Let's jump back to the debrief following the national workshop, two weeks after the exhibition opening.

Dichino (YCSS): I think today was actually a pretty good day for YouCount. I think it was a very good representation of what your work is. Or what you build with your work.

Frederick (research assistant): Ours, D. (laughter)

Dichino: Ours, yes. Because at the very beginning when I was going to take it (the assignment), it was very unclear, I felt. Both for myself and a bit around actually, when I asked the young (YCSS) what they were doing. Now I feel it is a little clearer what is the meaningfulness of it, or what is the social effect of what we do. That we conduct research and set up exhibitions and initiate such conversations.

(From debrief with YCSS after national workshop May 24, 2023)

Dichino is one of the youths who we involved later in the process, to assist us in disseminating the results from the data collection in the Oslo case to a Norwegian speaking audience. He is part of a group of young locals working in the media group called Ildfluene (Fireflies), organized by a neighborhood incubator for social entrepreneurship, Tøyen Unlimited. Dichino and his 19-year-old colleague San San have joined our biweekly meetings for a few months now, since the first dialogue forum we facilitated just before Christmas last year. They have contributed with new energy and bothersome questions and queries we don't know how to answer. "What is the purpose of the exhibition that you are planning?" "Who is the target group?" "How do you plan to spread the word about the project to other youth?" They pushed our collective sensemaking process further by turning the table and exposing a narrative inquiry on us, the co-research team. What stories do we want to tell the world and how do we make sense of the storying process as a collective?

Sara (researcher): I thought especially when I was standing there watching everyone work on ideas, when Dichino and I had Crazy 8, and when you went over to discuss, just the thought of how important this is, that there are so many people sitting here, with so many different perspectives, many with quite a lot of power, and we have us, and there we sit and discuss and come up with so much good. Then I got a chilling sensation. It was really, really cool. And just think, as has been said here, that we have been at it for a year and a half, we have gotten to know each other so well, we work so well together, and achieved so much.

(From debrief with YCSS after national workshop May 24, 2023)

Dichino has not just transitioned from being an outside observer and documenter, to an engaged co-producer of scientific findings, he is also positioning himself as an action researcher performing transformative inquiry on us. He is both genuinely annoying and extremely helpful in his direct and very justified questions. And he is pointing at something crucial in his comment from the debrief quoted above: The professional lives of action researchers are conversations, conversations, conversations.

Sometimes we wonder if the research process owns us, more than we control it as a creation of our own. Why did we write in the proposal to the SwafS program<sup>44</sup> that we would engage 10 core youth citizen scientists? Why not 5 or even 2 youth? That would have been so

44 SwafS is the acronym for Science with and for Society, see <https://www.sfi.ie/funding/international/european-research-area/horizon-2020/swafs/>

much easier to handle, reducing the level of hourly contracts, personal messages to encourage commitment, follow-up conversations to secure safe space and continuous trust-building. Is that responsible research innovation, to take care of so many young people?

We blame serendipity and random suggestions, “think of a number”, in the imaginary phase of a collaborative research process (before funding) in that rented meeting room in Brussels six years ago, when we co-wrote the application. Now, in the very non-ephemeral, down-to-earth deliver or die phase, we are stunned by our own ability to repeatedly aim for the sky and beyond *before* the money is on the table. What budget post includes the ethics of care, the sweat of relational labor?

The transition from citizen natural science to citizen social science without the complementary institutional support seems to raise only a few eyebrows, some nods but exceptionally little revolt. We became fired up. We decided early on that on principle, we couldn’t accept the EU prerogative of defining citizen scientists as volunteers. Our colleague Arne’s mantra “leading through cake” transitioned into “co-creating through food”. We bought the youth ice cream, snacks, take away food from the local diner, pizza, soda, juices, nuts, chocolate, fruits, crackers. We fed them into oblivion, until we found a loophole in the regulations and could begin to pay them hourly salaries as planned and communicated to them from the beginning of our recruitment process.

Other studies have found that the voluntary work done by nonprofessional researchers in CSS activities, is only seldom compensated financially, and conclude that “these observations indicate how CSS is blurring, if not shifting, boundaries between paid and unpaid as well as voluntary and non-voluntary work for research” and thus deserve further study.<sup>45</sup> The implication wasn’t clear to us before we were actively prohibited from remunerating the youth involved in YouCount. What young person has it as his/her hobby to investigate social inclusion processes in their neighborhood, on their free time, following a full day at school?

## 5. Desperation, part II: Involving even more people, roles, and tasks

Sara (researcher): I am so proud and happy, and full of energy. (laughter) Damn, it’s been so much fun today, and it’s what is repeatedly said, as many have talked about now, but my God, what a team we are. That is exactly what we are. We are a team that gets so much done together, and just look at it today, as Aina said, everything just flows, everyone does their job, takes responsibility, we just get it done. It was really, really fun to watch.

(From debrief with YCSS after national workshop May 24, 2023)

Fast rewind from this debrief moment after the national workshop in May 2023, let’s jump back 14 months. “What should we do?” The five of us, the researchers and research assistants, crowds the drawing table, our hub in the open part of the office space at our research institute. The past two weekends we have gone all in to facilitate the training sessions for the newly recruited group of then 12 young emerging co-researchers, and we are exhausted and confused and bewildered. What now? The feeling of having succeeded in training them based on our newly developed framework is superseded by the dread of the imminent data collection period we are now supposed to enter, according to the time schedule of the research proposal that is funded and made operative. It feels like being in jail, doing time, to adhere to someone

45 Göbel et al. 2023.

else's plan for us. It seems absurd that we were part of engineering this project design. We *know* the youth are not ready-made researchers after just 10 hours of training, despite the framework, all the effort put in by everyone involved, and the heaps of food we provided as remuneration. What can we do?

In feeling our collective desperation, Frederick, one of the research assistants by title, but partner and equal by experience, saves us by digging into the treasure trove of his own MA thesis in social work, on social impact and policy change.<sup>46</sup> “Let's start by interviewing the stakeholders in the project”, he suggests. “We can team up two senior researchers and two YCSS and do it together. That will be both a soft start of the data collection, and a fruitful way into preparing for the first big hurdle, Living Lab 1.” We look at him in grateful awe. Puh. We have a plan. For now.

We know from previous research that there is little evidence of how citizen science in social science research might work in practice.<sup>47</sup> One explanation could be that much of the citizen science process is kept in the shadows, not revealing for instance how many more actors that are involved in citizen science than just the researchers and co-researchers, like the stakeholders we interviewed and invited to our Living Labs – making the citizen social science process both messier and mightier.<sup>48</sup>

Emerging from the traditions of AR, PAR and YPAR, we thought we did “normal” citizen social science, until we attended a seminar for the newly established network of Norwegian citizen science researchers last year. Here they referred to what we did as “extreme citizen science”. Later, when checking the terminology on google scholar, we discovered that it was not a linguistic innovation by the staff at the council. More people seem to agree with this definition. Scholars have described what they call “levels” of citizen science involvement, from crowdsourcing (level 1) to distributed intelligence (level 2) and participatory science (level 3).<sup>49</sup> The fourth and last level is called extreme citizen science [ECS], where participants are “deeply involved in the research process through co-creation which supports collaboratively identifying the problem, forming the research questions, designing the tools and methods to support data collection, and collecting and analyzing the data”.<sup>50</sup> What is extreme about this, we asked ourselves.

With our action research background ingrained in our cells/souls, always aiming to transcend established traditions and structures, and based on our newly acquired empirical knowledge of doing a citizen social science project from start to end, we take the jump and add first a fifth and sixth level to this theory of CS (see Figure 5).

46 Reiersen, F. (2022)

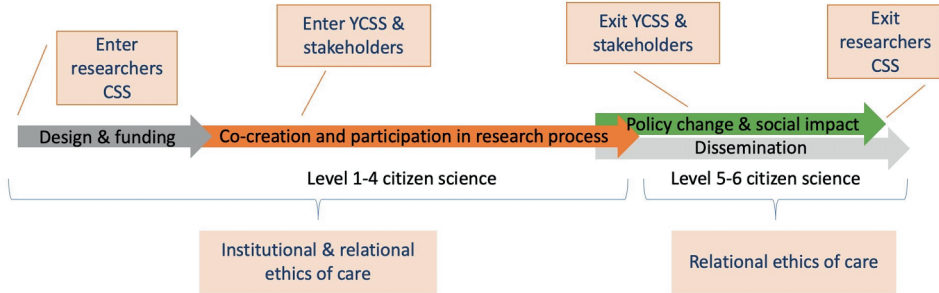
47 Heiss & Matthes (2017), Tauginienė et al. (2020)

48 Göbel et al. (2022).

49 Chiaravalloti et al (2022).

50 Chiaravalloti et al (2022, p.2).

Figure 5: Process of YCSS research – YouCount, with CS level 5 – 6 added.



In this model participants are not only deeply involved in the research process through co-creation which supports collaboratively identifying the problem, forming the research questions, designing the tools and methods to support data collection, and collecting and analyzing the data. They are also active in the dissemination and making actions for policy change and social innovations – not unlike how most P/AR projects are designed.

This is where we are at. Citizen science traditionally mobilizes citizens in research processes, e. g., by collecting data and building a knowledge base for analysis.<sup>51</sup> Participatory Action Research (PAR) is among the epistemic foundations of citizen social science, building on a rich participatory tradition that citizen science of the natural sciences does not adhere to.<sup>52</sup> Action research seems to be re-emerging in new clothes, as a citizen social science approach to address questions of societal transformation and democratization while also doing rigorous research.<sup>53</sup> Finally, we build on transition research that focus on understanding the systemic patterns of inertia and transformation to develop governance strategies to guide and accelerate desired future transitions.<sup>54</sup> What became apparent to us in the process was that we lack the institutional support to do level 5–6. Also, this model does not account for the cyclical nature of curiosity-based research, something that again necessitates an ethics of care. Inspired to go deeper, further, we add a seventh level in this transformative citizen science action research model to include deep involvement in the idea development, design and securing funding of research, a natural closing of the loop (Figure 6).

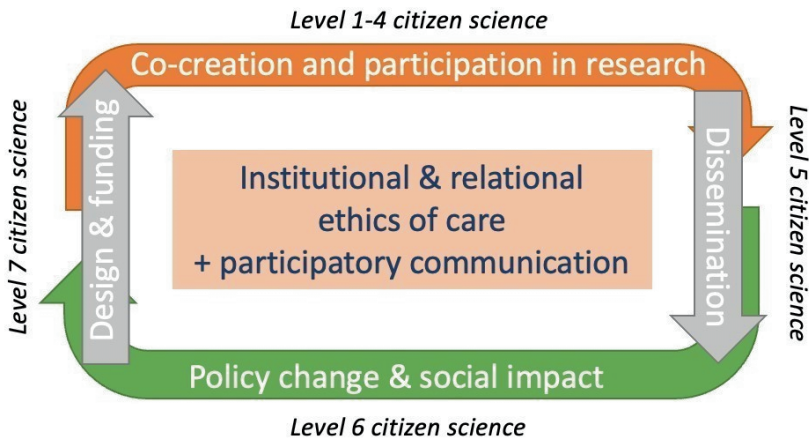
51 Sauermann et al. (2020).

52 Albert et al. (2021).

53 Greenwood & Levin (2007), Bradbury et al. (2019), Wittmayer et al. (2021).

54 Markard et al. (2012), Loorbach et al. (2017), in Loorbach & Wittmayer (2023).

Figure 6: Model of Action Research with CS level 1–7 where an epistemic ethics of care can be achieved.



With level 6 of CSS, inclusion of citizens in policy change and social innovation, one can enable transformative research and learning, and promote narrative inquiry that makes meanings move.<sup>55</sup> And with level 7, one can make ethics of care an integrated part of the institutional support system of citizen social science, thus achieving an epistemic ethics of care. What we experienced throughout the 18 months of engagement with the young citizen social scientists, was how their involvement was fundamentally changing the research position, adding a multiplicity of roles and complexity to the traditional role-hierarchy of student-teacher relations in academia. The youth were moving from a collaborator position in action research and YPAR, to becoming partners and sometimes also leaders of processes in citizen social science.

## 6. Desperation, part III: Youth becoming temporary leaders of the process

Back in January 2023, I, Sara, ask the co-researchers, “Why do you think it didn’t go as planned?”. We are debriefing a field trip to the local youth club that took place the previous week. Our goal was to promote the newly launched YouCount App, which we intended to use as a tool for data collection. Within the natural sciences, there is a long tradition of using apps in citizen science projects. Inspired by this, we collaborated with Spotteron, a company specializing in developing apps for citizen science projects, to create our own app in the project. Before heading to the youth club, my colleague Ingar, five co-researchers, and I met at a nearby library to prepare. Together, we created a presentation and planned a fun competition to engage the youth. However, upon our arrival at the youth club, we found that the youths

55 Bochner & Herrmann 2020.

were uninterested in our presentation and unwilling to engage with us. They were busy doing homework or playing video games together. We stayed there for an hour before admitting defeat. As we later explained to the co-researchers, failed field trips are more common than successful ones when doing fieldwork.

We are now back at our safe base at the Intercultural Museum, discussing what went wrong. After a few minutes of silence, Amir, one of the co-researchers, hesitantly said, ‘Ehm... I don’t know, but maybe nobody wanted to talk to us because *you* were there.’ My fellow researcher Ingar and I look at each other – why didn’t we think of this? The other youths agreed with Amir. The presence of adult researchers made the atmosphere too serious for a youth club. Two of the young co-researchers wanted to go back alone to try again. This time, they managed to talk to all the youths hanging out at the youth club – and many of them downloaded the YouCount app, to Ingar’s joy and relief.

One month later, in February 2023, we are sitting together again, planning our second dialogue forum; an event where local youths were to be invited to participate in a workshop centred around social inclusion, preferably using the YouCount app as a place-based observation and reflection tool. Ideas were swirling around the table, and suddenly, one of the youths proposed that the young co-researchers themselves could take on a facilitative role for the workshop. Hearing this I, Sara, almost got goosebumps – we finally succeeded in our efforts to teach them enough science for them to be “acting as scientists”<sup>56</sup>; I thought, the youths don’t need us anymore.

Fast forward – about four months later, nearing the end of the projects’ involvement of youth, I had a conversation with Maryam, one of the co-researchers. I asked her if we, the researchers, should have done anything differently throughout the project. She responded, “You [all the researchers] are too chill, you should have been stricter with us. You could almost have treated us like children sometimes, just giving us specific tasks”.

Reflecting on this when writing this paper, it becomes evident to me that the desire to become superfluous has deeply ingrained itself in both me and my colleagues over the years. Even though our objective in the YouCount project was to train the youths to become co-researchers who would be involved in the research as co-creators, we, without articulating it, struggled to make them into autonomous researchers who could do research independently. We wanted to become superfluous. However, as becomes evident in the conversation I had with Maryam, the youths didn’t need that – they wanted to be guided and supported in a balancing act of care taking and letting go.

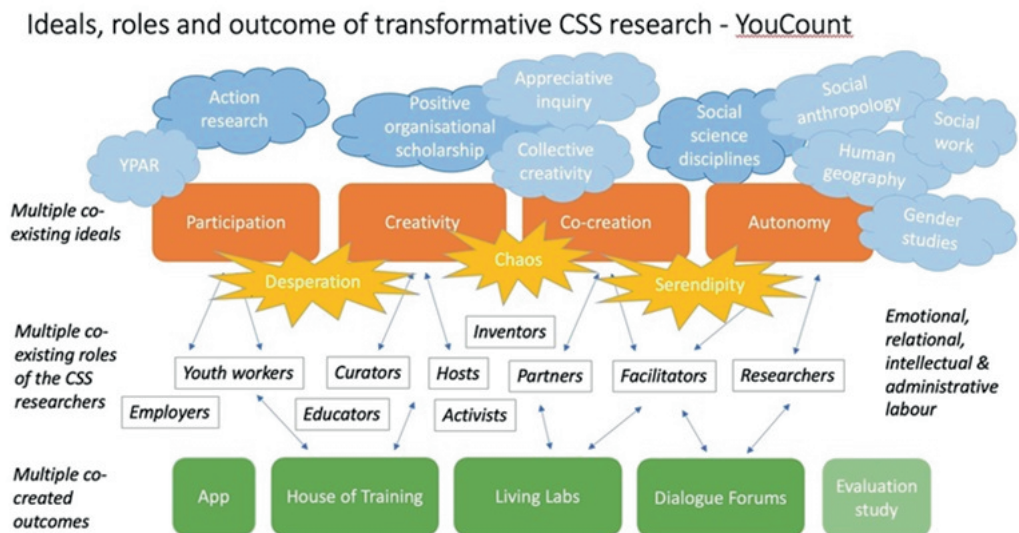
## 7. Looking ahead: The transformative practices of citizen social science action research

As the article seems to be coming to an end, the need arises again. Walking the article takes me downtown this time, I crisscross the busy Sunday streets of Grønland, the east side area where our team of co-researchers have investigated social inclusion of local youth for what seems like forever. The September sun leads me to the familiar Indian diner, our haunt for the

lengthier workshop debriefs. With a keema nan in hand and bugs in my brain, I balance my thoughts on a tightrope of familiar and new, revolt and acceptance.

When writing this text, we started reflecting upon our multiple, sometimes conflicting roles when doing citizen social science. We have become inventors of transformative learning, curators of curiosity and hosts of community, youth workers and employers, facilitators, and activists for change. All this and more. It is emotional, relational, intellectual, and administrative labor all at once. And it feels quite precarious. The time available is never enough.

Figure 7: Ideals, roles, and outcome of transformative CSS research in the Norwegian case of the YouCount project.



Our haphazard mix of scholarly backgrounds (the clouds in Figure 7) surely contributed to a cacophony of voices, a mix of approaches, methods and trust building tactics that enabled this diverse group of Oslo youth with multicultural backgrounds to be actual contributors to social science, to gain or even claim epistemic justice, like Amina's statement above exemplifies. The multiplicity inspired a resource intensive and demanding process of exploration, building not only on action research, YPAR and our multiple social science disciplinary backgrounds, but also on literature of positive organizational scholarship (POS), appreciative inquiry and collaborative creativity.<sup>57</sup> We found our roles being multiplied by the second, as we were aiming for the planned outcomes of our scientific endeavors.

Our motivation for social change, co-created research outcomes *and* securing ethics of care reveals the need for institutional change in our science support infrastructure. Part of this change is to look again at the roles in the co-creation practices of AR, (Y)PAR and CSS, to open for youth being co-creators and leaders of research process without losing the ethics of care practices. This necessitates critical and emotional reflexivity, an introspection of the

57 Carlsen et al 2012b, Cooperrider & Srivasta 1987, Ludema et al. 2006.

researcher role, and the degree of citizen and researcher engagement. Particularly it demands a rethinking of the design of research processes: what is included as research and what is not?

Labelling something as extreme makes the reachable horizon behind unattainable. This far but not further, it seems to us that scholars say when they define just the core of research practices – the data collection – as valuable enough for collaboration with outsiders.<sup>58</sup> We have become all-rounders, generalists in survival mode, improvising, using our co-acquired skill and tactic. We are not alone though. Rather than focusing on reproducing (disciplinary) knowledge, more and more scholars argue for the emergence of alternative approaches to science, be it reparative, engaged, transformative, or sustainability research – and to education, such as transformative learning.<sup>59</sup> They are also realizing as we do, that “it becomes increasingly clear that traditional, disciplinary academic structures are often unfit to accommodate such new forms of research and education”.<sup>60</sup> At worst these structures are actually “working against forms of research and education that support sustainability transitions”.<sup>61</sup>

## 8. The end is just the beginning

We will give voice again, to Maryam’s words from the beginning of this exploration.

Maryam: And look where we are now.

(From debrief with YCSS after national workshop May 24, 2023)

Maryam revealed in front of the whole, diverse team, that she didn’t think in the beginning of her involvement, one and a half years ago, that she would have reached this far. The epistemic injustice the youth has become accustomed to has taken its toll. I look at her across the room, I swallow. My eyes burn. The sensory experience of being in that room together, finally sharing the backstage<sup>62</sup> of the research project – the reflexive space where we discuss the event on equal footing, like colleagues, becomes a shared feeling of fulfilment. The long set of tables in the middle, the young people mixed with senior researchers, adults. The faces of youth, some we haven’t seen since before the high school and university exam period started a couple of months ago. Sensing gratitude, calmness, pride and tingling of tears inside.

This is the first and to be frank, only such serene moment we experienced together in the 18 months we’ve worked as a citizen social science team. It is rare, precious, and fleeting. It feels both normal *and* extreme, simultaneously. From our joint experience over these years, we have realized that it is the level of emotional and relational attachment created and recreated throughout the bumpy road of an experimental research process that in practice should define co-creative citizen social science as extreme. Not the number of parts of the process of science you have accommodated for outsiders to partake in.

And then again, with the looming scenarios of a rapidly heating planet, and the numerous exclusion mechanisms that this will accelerate for all vulnerable citizens (which will be most of us), we think it is wise to preserve the term “extreme” for the times of uncertainty and

58 Chiaravalloti et al (2022).

59 Loorbach & Wittmayer (2023).

60 Trencher et al. (2014).

61 Fazey et al. (2021) in Loorbach & Wittmayer (2023).

62 Goffman (1959).

hardship that likely will come. We argue for caution when it comes to applying such enchanting characteristics to co-created approaches to science, and rather emphasis the need to explicitly venture for a more ethics of care-based approach, where transformative research and learning is seen as a necessary way of conducting responsible research to co-create a more sustainable and co-habitable planet. Can Aina's efforts of "chasing balloons" all over the city to complement the young citizen social scientists' ideas on how to disseminate our findings in a curated museum space, be called research? It sure didn't feel like it at the time. Now, after walking the article, together with companion species of all kinds, we see it differently. Chasing balloons, the symbols of hope, opportunity, and openness to the unknown, is maybe the most important scientific practice we can engage in, to secure the epistemic justice, abundance and ethics of care in future citizen social science and action research.

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## References

- Aabye, L., Gioacchino, G., & Wegner, F. (2021). Holding space for emotions in participatory action research: reflections from the experiences of a youth organisation exploring PAR through creative practices. In D. Burns, J. Howard, & S.M. Ospina (Eds.), *The SAGE Handbook of Participatory*

- Research and Inquiry* (pp. 263–275). SAGE Publications Ltd. <https://doi.org/10.4135/9781529769432>.
- Ahmed, S. (2012). *On Being Included: Racism and Diversity In Institutional Life*. Duke University Press.
- Albert, A. et al. (2021) Citizen Social Science: new and established approaches to participation in social research. In K. Vohland (Ed.), *The science of citizen science* (pp. 119–138). [https://doi.org/10.1007/978-3-030-58278-4\\_7](https://doi.org/10.1007/978-3-030-58278-4_7).
- Alderson, P. & Morrow, V. (2011). *The Ethics of Research with Children and Young People: A Practical Handbook*. Sage Publications.
- Bateson, G. (1972). *Steps to an Ecology of Mind*. University of Chicago Press.
- Bochner, A. P., & Herrmann, A. F. (2020). Practicing narrative inquiry II: Making meanings move. In P. Leavy (Ed.), *The Oxford Handbook of qualitative research* (pp. 284–328). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780190847388.013.19>.
- Bonney, R., Shirik, J.L., Phillips, T.B., Wiggins, A., Ballard, H.L., Miller-Rushing, A.J. & Parrish, J.K. (2014). Next Steps for Citizen Science. *Science*, 343(6178), 1436–1437. [10.1126/science.1251554](https://doi.org/10.1126/science.1251554).
- Borgström, D., Canto-Farachala, P., Hagen, A. L., Norvoll, R., Rådmark, L. & Lorenzen, S.B. (Eds.). (2024). *Handbook of Youth Citizen Social Science. Working with Young People and the Local Community for Social Change*. Zenodo. <https://doi.org/10.5281/zenodo.10566411>
- Bradbury, H., Waddell, S., O'Brien, K. et al. (2019). A call to action research for transformations: the times demand it. *Action Res*, 17(1), 3–10. <https://doi.org/10.1177/1476750319829633>.
- Brattbakk, I. (2023). *Nabolagseffekter og foreldrestrategier: Oppvekstmulighetenes geografi i den delte byen* [PhD thesis, University of Oslo].
- Burawoy, M. (2005). For public sociology. *American Sociological Review*, 70(1), 4–28. <https://doi.org/10.1177/000312240507000102>.
- Bygdås, A., Clegg, S. & Hagen, A.L. (red.) (2019). *Media management and Digital transformation*. Routledge.
- Byskov, M. F. (2021). What Makes Epistemic Injustice an “Injustice”? *Journal of Social Philosophy*, 52(1), 116–133. <https://doi.org/10.1111/josp.12348>.
- Cahill, C. (2007). Doing Research with Young People: Participatory Research and the Rituals of Collective Work. *Children's Geographies*, 5(3), 297–312. <https://doi.org/10.1080/14733280701445895>.
- Capous-Desyllas M., Morgaine K. (2018). *Creating social change through creativity anti-oppressive arts-based research methodologies*. Palgrave Macmillan.
- Cammarota, J. & Fine, M. (Ed.) (2008). *Revolutionizing Education. Youth Participatory Action Research in Motion*. Routledge.
- Canto-Farachala, P., & Norvoll, R. (2023). Guest Editorial of thematic series: YouCount: Action Research and Citizen Social Science. *IJAR–International Journal of Action Research*, 19(2), 107–111. <https://doi.org/10.3224/ijar.v19i2.02>.
- Carlsen, A., Mortensen, T. and Landsverk Hagen, A. (2012). Imagining hope in organizations. From individual goal attainment to horizons of relational possibility. In K. Cameron & G. Spreitzer (Eds.), *The Handbook of Positive Organizational Scholarship* (pp. 288–303). Oxford University Press.
- Carlsen, A., Hagen, A. L., Clegg, S. & Gjersvik, R. (2012). Liberating laughter: How playful energy and humor opens up people, situations and ideas. In A. Carlsen, S. Clegg & R. Gjersvik (Eds.), *Idea Work* (pp. 156–169). Cappelen Damm Akademisk.
- Chiaravalloti, R. M., Skarlatidou, A., Hoyte, S., Badia, M. M., Haklay, M., & Lewis, J. (2022). Extreme citizen science: Lessons learned from initiatives around the globe. *Conservation Science and Practice*, 4(2), e577. <https://doi.org/10.1111/csp2.577>.
- Cooperrider, D. L. and Srivasta, S. (1987). Appreciative inquiry in organizational life. *Res. in org. ch. and dev.*, 1, 129–169.

- Cunliffe, A., Gorli, M., Ivaldi, S., and Scaratti, G. (2020). Emotions as inspiration for reflexivity in action research. In L. Hersted, O. Ness, & S. Friman (Eds.), *Action Research in a Relational Perspective. Dialogue, Reflexivity, Power and Ethics* (pp. 137–156). Routledge. <https://doi.org/10.4324/9780429289408-8>.
- Dewey, J. (1897). My pedagogic creed. *School Journal*, 54(3), 77–80.
- Dewey, J. (1916). *Democracy in education*. Macmillan.
- Fazey, I., Hughes, C., Schöpke, N.A. et al. (2021). Renewing universities in our climate emergency: stewarding system change and transformation. *Frontiers in Sustainability*. <https://doi.org/10.3389/frsus.2021.677904>.
- Fricker, M. (2007). *Epistemic injustice: Power and the ethics of knowing*. Oxford University Press.
- Gearty, M. R., & Marshall, J. (2021). Living Life as Inquiry—a systemic practice for change agents. *Systemic Practice and Action Research*, 34, 441–462. <https://doi.org/10.1007/s11213-020-09539-4>.
- Gélineau, L., Dupéré, S., & Richard, J. (2024). Participatory action research: The woven collective analysis approach to recognize experiential knowledge of poverty. *Action Research*, 22(1), 32–50. <https://doi.org/10.1177/14767503231205237>.
- Goffman, E. (1959). *The presentation of self in everyday life*. Doubleday.
- Göbel, C., Mauermeister, S. & Henke, J. (2022). Citizen Social Science in Germany—cooperation beyond invited and uninvited participation. *Humanit Soc Sci Commun* 9, 193. <https://doi.org/10.1057/s41599-022-01198-1>.
- Gravesen, D. T., Mikkelsen, S. H., & Frostholt, P. H. (2019). Imellem inddragelse og adultocentrisme: Metodologiske refleksjoner over utfordringer og paradokser i kvalitativt børne- og ungeforskning. *Norsk sosiologisk tidsskrift*, 3(1), 30–48. <https://doi.org/10.18261/issn.2535-2512-2019-01-03>.
- Greenwood, D.J. & Levin, M. (2007). *Introduction to action research. Social research for social change*. Sage.
- Hagen, A.L. & Andersen, B. (Eds.). (2021). *Ung medvirkning: Kreativitet og konflikt i planlegging. (Youth Participation: Creativity and Conflict in Planning)*. Cappelen Damm Akademisk.
- Hagen, A. L. (2021). Egalitarian ideals, conflicting realities: Introducing a model for thick youth participation. In A. L. Hagen & B. Andersen (Eds.), *Ung medvirkning: Kreativitet og konflikt i planlegging (Youth Participation: Creativity and Conflict in Planning)* (pp. 277–306). Cappelen Damm Akademisk.
- Hagen, A.L. & Osuldsen, J. (2021). Urban youth, narrative dialogues, and emotional imprints: How co-creating the ‘spotting’ methodology became a transformative journey into interdisciplinary collaboration. In M. Stender, C. Bech-Danielsen & A. L. Hagen (Eds.), *Architectural Anthropology – Exploring lived space* (pp.135–148). Routledge.
- Hagen, A.L. & Lyng, S. (2019). Barn og unges deltagelse i forskning: Muligheter og utfordringer (Children and youth participation in research: Possibilities and challenges). *Norsk sosiologisk tidsskrift*. 3(1), 6–12. <https://doi.org/10.18261/issn.2535-2512-2019-01-01>.
- Haraway, D. (2008). *When Species Meet*. University of Minnesota Press.
- Heiss, R. & Matthes, J. (2017). Citizen Science in the Social Sciences: A Call for More Evidence. *GAI – Ecological Perspectives for Science and Society*, 26(1), 22–26. <https://doi.org/10.14512/gaia.26.1.7>.
- Heron, J. & Reason, P. (1997). A Participatory Inquiry Paradigm. *Qualitative Inquiry*, 3(3), 274–294. <https://doi.org/10.1177/107780049700300302>.
- Housley, W., Procter, R., Edwards, A., Burnap, P., Williams, M., Sloan, L., et al. (2014). Big and broad social data and the sociological imagination: A collaborative response. *Big Data & Society*, 1(2), 1–15. <https://doi.org/10.1177/2053951714545135>.
- Jacquez F., Vaughn L. M., Wagner E. (2013). Youth as partners, participants or passive recipients: A review of children and adolescents in community-based participatory research (CBPR). *American Journal of Community Psychology*, 51(2), 176–189. <https://doi.org/10.1007/s10464-012-9533-7>.
- Johnson V. (2017). Moving beyond voice in children and young people’s participation. *Action Research*, 15(1), 104–124. <https://doi.org/10.1177/1476750317698025>

- Kennan, D. & Dolan, P. (2017). Justifying children and young people's involvement in social research: Assessing harm and benefit. *Irish Journal of Sociology*, 25(3), 297–314. <https://doi.org/10.1177/0791603517711860>.
- Kemmis, S. & Wilkinson, M. (1998). Participatory action research and the study of practice. In B. Atweh, S. Kemmis & P. Weeks (Eds.), *Action research in practice: Partnerships for social justice in education* (pp. 21–36). Routledge.
- Laidlaw, James. (2002). For an anthropology of ethics and freedom. *Journal of the Royal Anthropological Institute*, 8(2), 311–32. <https://www.jstor.org/stable/3134477>.
- Leavy P. (2015). *Method meets art: Arts-based research practice*. Guilford Press.
- Lempert, M. (2014). “Uneventful ethics”, book symposium on James Laidlaw. 2014. The Subject of Virtue: an anthropology of ethics and freedom. *Hau: Journal of Ethnographic Theory*, 4(1): 465–472. <http://dx.doi.org/10.14318/hau4.1.029>.
- Lewin T. & Shaw J. (2022). Collective becoming: Visual and performative methodologies for participatory research. In D. Burns, J. Howard & S.M. Ospina (Eds.), *The Sage handbook of participatory research and inquiry* (pp. 711–722). Sage Publications Limited. <https://doi.org/10.4135/9781529769432>.
- Loorbach, D.A. & Wittmayer, J. (2023). Transforming universities. *Sustain Sci*, 19, 19–33. <https://doi.org/10.1007/s11625-023-01335-y>.
- Loorbach, D., Frantzeskaki, N., Avelino, F. (2017). Sustainability transitions research: transforming science and practice for societal change. *Annu Rev Environ Resour* 42, 599–626. <https://doi.org/10.1146/annurev-environ-102014-021340>.
- Ludema, J.D., Cooperrider, D.L. & Barrett, F.J. (2006). Appreciative Inquiry: The Power of the Unconditional Positive Question. In P. Reason & H. Bradbury (Eds.), *Handbook of Action Research* (pp. 155–165). Sage Publications.
- Markard J., Raven R. & Truffer, B. (2012). Sustainability transitions: an emerging field of research and its prospects. *Res Policy* 41(6), 955–967. <https://doi.org/10.1016/j.respol.2012.02.013>.
- Pech A. S., Valencia B. G. & Romero A. J. (2019). Reflections from novice youth participatory action researchers: Emphasis on critical gender perspectives. *Journal of Community Psychology*, 48(2), 302–322. <https://doi.org/10.1002/jcop.22253>
- Punch, S. (2002). Research with children. The same or different from research with adults? *Childhood*, 9(3), 321–341. <https://doi.org/10.1177/0907568202009003005>.
- Purdam, K. (2014). Citizen social science and citizen data? Methodological and ethical challenges for social research. *Current Sociology*, 62(3), 374–392. <https://doi.org/10.1177/0011392114527997>.
- Reason, P. & Bradbury, H. (Eds.). (2006). *Handbook of Action Research: The Concise Paperback Edition*. Sage.
- Reiersen, F. (2022). *From Youth Participation to Social Innovation and Policy Change: An Observational Study of Stakeholder Management Strategies in an EU Horizon 2020 Youth Citizen Social Science Project* [MA thesis, Oslo Metropolitan University]. <https://oda.oslomet.no/oda-xmlui/handle/11250/3098071>.
- Sauermann, H., Vohland, K., Antoniou, V. et al. (2020). Citizen science and sustainability transitions. *Res Policy*, 49(5), 103978. <https://doi.org/10.1016/j.respol.2020.103978>.
- Schwantz, M. (2008). Participatory action research: Its origin and future in women ways. In P. Reason & H. Bradbury (Eds.). (2006). *Handbook of Action Research: The Concise Paperback Edition*. Sage.
- Shamrova, D. P. & Cummings, C. E. (2017). Participatory action research (PAR) with children and youth: An integrative review of methodology and PAR outcomes for participants, organizations, and communities. *Children and Youth Services Review*, 81(Supplement C), 400–412. <http://dx.doi.org/10.1016/j.childyouth.2017.08.022>.
- Solé, C., Couso, D. & Hernández, M.I. (2023). Citizen science in schools: a systematic literature review. *International Journal of Science Education, Part B*, 1–17. <https://doi.org/10.1080/21548455.2023.2280009>.

- Sterling, S. (2010). Living in the Earth: towards an education for our time. *Journal of Education for Sustainable Development* 4(2), 213–218. <https://doi.org/10.1177/097340821000400208>.
- Stone, E. (Ed.) (1997). *Close to the bone: Memoirs of hurt, rage and desire*. Grove.
- Tauginienė, L., Butkevičienė, E., Vohland, K. et al. (2020). Citizen science in the social sciences and humanities: the power of interdisciplinarity. *Palgrave Commun*, 6(89). <https://doi.org/10.1057/s41599-020-0471-y>
- Tolstad, I., Hagen, A.L. & Andersen, B. (2017). The amplifier effect: Youth co-creating urban spaces of belonging through art, architecture and anthropology. In S. Bastien & H. Holmarsdottir (Eds.), *Youth as architects of change: global efforts to advance youth-driven innovation for social change* (pp. 215–242). Palgrave Macmillan.
- Trondsen, M. V., & Eriksen, S. H. (2019). Mellom deltakelse og beskyttelse: Aksjonsforskningens mulighetsrom for barn og unge. *Norsk sosiologisk tidsskrift*, 3(1), 49–65. <https://doi.org/10.18261/issn.2535-2512-2019-01-04>.
- Tsoukas, H. (2017). Don't Simplify, Complexify: From Disjunctive to Conjunctive Theorizing in Organization and Management Studies. *Journal of management studies*, 54(2), 132–153. <https://doi.org/10.1111/joms.12219>.
- Vestby, N. (2015). I crossed the line. *InFormation-Nordic Journal of Art and Research*, 4(2), 1–22. <https://journals.oslomet.no/index.php/information/article/view/1546>.
- Vestby, N. (2020). Eutopia – where the heart matters. In K. Bergaust, R. Smite & D. Silina (Eds.), *Oslofjord ecologies. Artistic research on environmental and social sustainability* (pp. 107–120). RIXC Center for New Media Culture and OsloMet.
- Weick, K.E., Sutcliffe, K.M. & Obstfeld, D. (1999). Organizing for high reliability: Processes of collective mindfulness. In B.M. Staw & R.I. Sutton (Eds.), *Research in Organizational Behavior* ( 81–123). JAI Press.
- Wittmayer, J., Bartels, K. & Larrea, M. (2021). Action Research, Policy and Politics. *International Journal of Action Research*, 17(1), 3–17. <https://doi.org/10.3224/ijar.v17i1.01>.

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