Co-creating the future: Exploring practices of co-created citizen science research across Europe+

Dr Rhys Archer, **Sarah Laptain,** and Professor Sarah West

SEI Stockholm Environment Institute

University of York

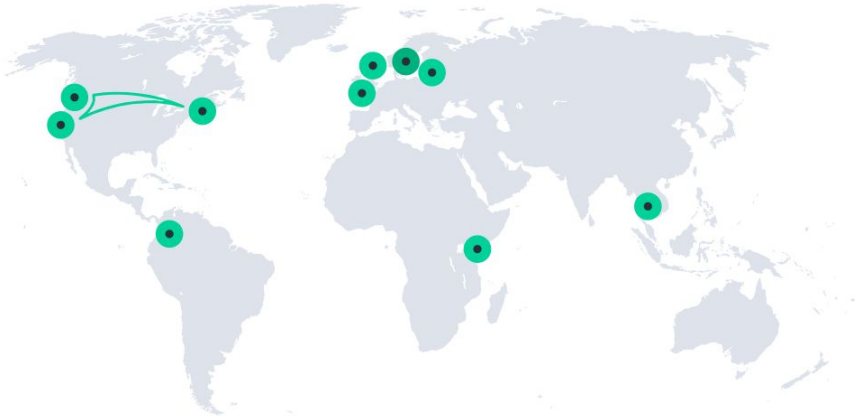
Agenda

This session is to share our learnings on co-created citizen science, as well as to gather best practice on co-created citizen science to for an open access guide.

- SEI Citizen Science group
- What is co-created Citizen Science?
- Benefits and challenges
- Case study: Youth LIVES
- Discussions

Who are we?

The **Stockholm Environment Institute** is an international research organisation which aims to support decision-making and induce change towards sustainable development around the world by providing integrative knowledge that bridges science, policy and practice in the field of environment and development.



We have 8 centres around the world - Stockholm (Sweden), Bangkok (Thailand), Boston, Davis, and Seattle (US), Oxford and **York** (UK), Tallinn (Estonia), Nairobi (Kenya) and Bogota (Colombia).

https://www.sei.org/

Who are we?

At SEI York, our Citizen Science research group has been designing, running, evaluating, and consulting on citizen science projects since 2008, on a wide range of topics, as well as publishing impactful research on Citizen Science theory.

Our aims are to create broader social change through citizen science theory and practice research that is inclusive, ethical, sensitive to existing power dynamics, and that equally centres both research and citizens*.

*we define ‘citizen’ to mean citizen of science, and citizen of the world

SEI Citizen Science research group

Rachel Pateman
Researcher
SEI York

Alison Dyke
Research Fellow
SEI York

Sarah West
Centre Director
SEI York

Luke Gooding
Research Associate
SEI York

Smriti Safaya
SEI Affiliated Researcher
SEI York

Sargamoy Phukan
PhD Researcher
SEI York

Sarah Foster
PhD Researcher
SEI York

Sarah Laptain
PhD Researcher
SEI York

Victoria Beale
Communications Specialist
Communications
SEI York

Lucy Way
Project Coordinator
SEI York

Rhys Archer
Research Fellow
SEI York

Some current projects

Ecological Citizen(s)

Project / SEI's Ecological Citizens project cultivates trans-disciplinary collaboration and research to enable a digital sustainable society for positive climate action.

About Climate policy, Innovation, Mitigation and Participation

Youth LIVES

Project / Working with young people to co-design relevant mental health research by identifying priority research questions and addressing these.

About Wellbeing

SAMHE: Schools' air quality monitoring for health and education

Project / A citizen science project monitoring indoor air, created with and for UK schools.

About Cities and Pollution

INGENIOUS: Understanding the sources, transformations and fates of indoor air pollutants

Project / This project investigates air pollutants inside homes in the city of Bradford, UK: their sources, interactions and health effects on those living there.

About Cities, Household energy and Pollution

Environmental citizen science in schools

Project / Investigating if and how hands-on experiences with nature impact values, attitudes and pro-environmental behaviour amongst secondary school students.

About Public policy

Testing citizen science to achieve inclusive water and sanitation public services

Project / Exploring the feasibility of citizen science to improve WASH conditions in two districts of Mexico City.

About Cities, Sanitation and Water resources

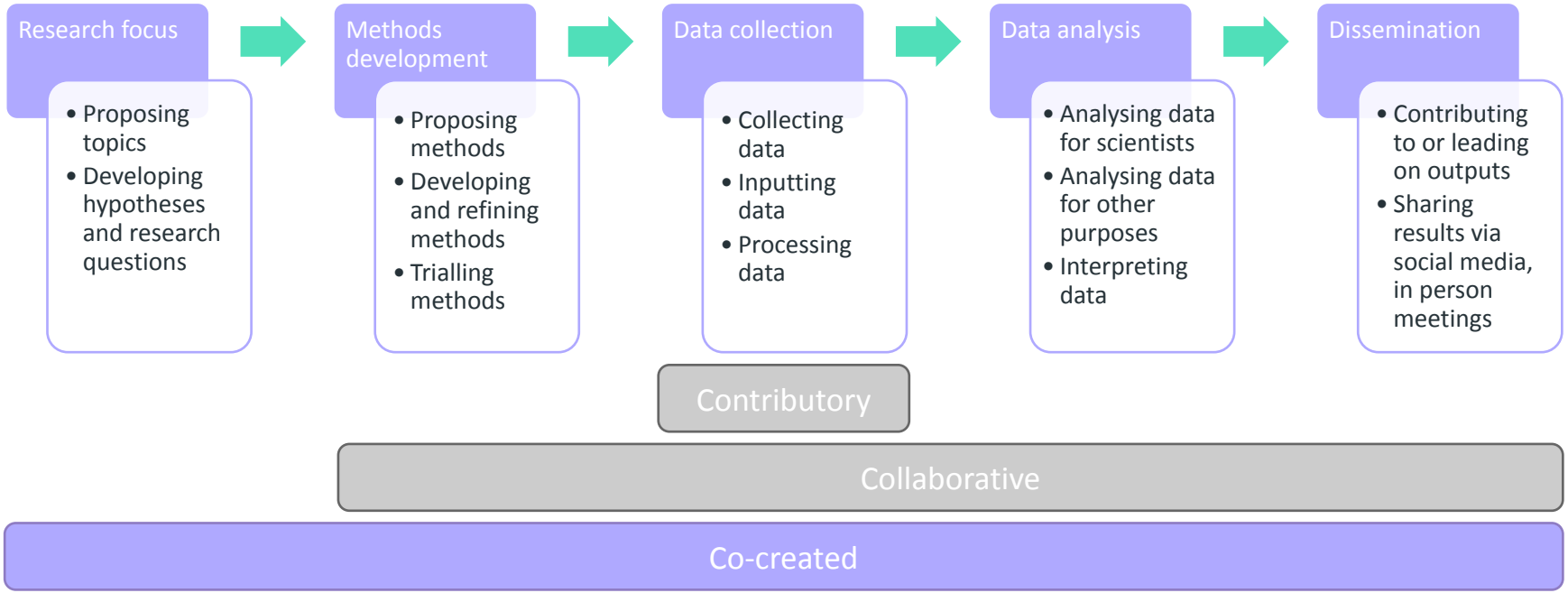
What is co-created Citizen Science?

This session is to share our learnings on co-created citizen science, as well as to gather best practice on co-created citizen science to for an open access guide.

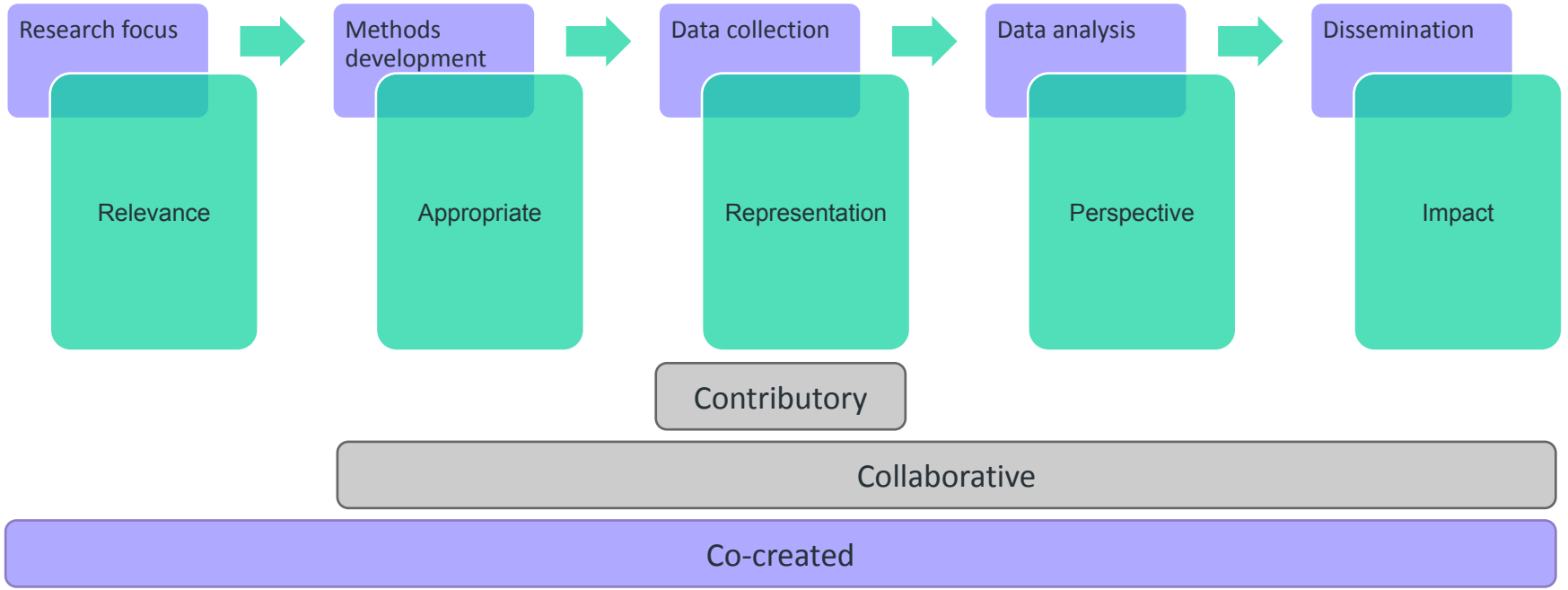
Do you have experience of doing co-created CS?

What do you consider to be co-created CS?

Stages of the scientific process

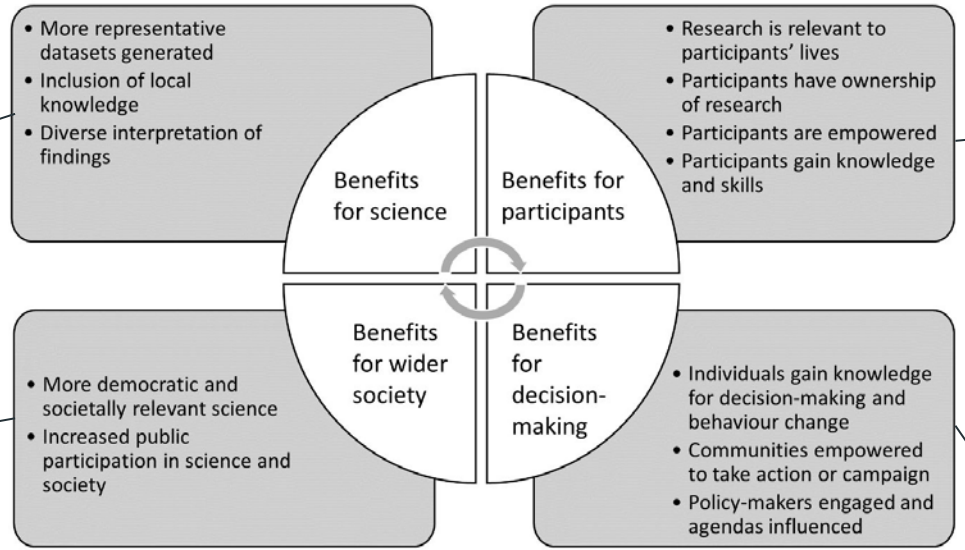


Stages of the scientific process



Benefits of co-created citizen science

"This is an awesome data set. I have never seen in my career to date a data set like this. This is massive… brilliant… I don't know anyone in science who has this."



"This was one of the most empowering things that I could have gotten involved in at a time when I was feeling vulnerable and frustrated. I was able to use my brain again, and assert my identity as both a mother and an academic and also learn loads and meet other inspiring people."

"*The importance of public engagement has been emphasised to me and I am trying to incorporate this further into my work day."*

"I do try to find research now if I'm worried about something impacting on my kids – it helps me to see if I should worry or forget about it."

Challenges with co-created citizen science

Despite these benefits there has been relatively limited uptake of co-created compared with contributory citizen science methods. Some of the barriers we have experienced are:

Resourcing

Lack of pre-bid funding

Lack of long-term funding

In depth engagement is resource intensive

Support

Safeguarding support

Ethics - uncertain future activities and processes

Ethics - different processes for border methods in different disciplines

Institutional support and understanding

Power

Ownership and credit of citizens in traditional academic environments

Working with non-CS researchers and/or specialists

Meaningful ‘transfer’ of power

Giving up control of the research agenda

Recruitment and retention

Diversity of citizen scientists

Inclusivity and belonging

Scheduling and logistics

Engagement and retention

Communication resourcing

Legacy

Lack of continuation funding/resources

Double effort of publication (academic and lay)

Lack of awareness and/or understanding of method from policy makers and decision makers

Case study: *Youth LIVES*

Youth LIVES (**LIV**ed experience of **E**vidence **S**ynthesis) is a UKRI-funded Citizen Science Collaboration award. The project aims to bring together young people with lived experience of mental health problems with researchers, to work together to discover evidence gaps and to co-create research proposals that meet the needs and priorities of young people themselves.

Youth LIVES

Using interdisciplinary approaches to enable youth citizen scientists to design and develop research from the beginning of the process in collaboration with established researchers.

Co-creation

Patient and Public Involvement (PPI)

Citizen science principles

Evidence synthesis

Patient and Public Involvement (PPI) means actively working in partnership with patients and members of the public to plan, manage, design and carry out research. It is “Research being carried out ‘with’ or ‘by’ members of the public rather than ‘to’, ‘about’ or ‘for’ them” - INVOLVE.

Citizen science principles

Co-creation

Evidence synthesis

Patient and Public Involvement (PPI)

Citizen science principles

Co-creation

Evidence synthesis, also sometimes called “systematic reviews”, is a way of combining information from multiple studies that have investigated the same thing, to come to an overall understanding of what they found. This helps determine how effective a certain treatment or drug is, or how people have experienced a particular health condition or treatment. - Cochrane

Youth LIVES

Timeline

Year One
2021 - 2022

- Q&A sessions for youth citizen scientists on discord with mental health researchers
- Reflection and evaluation sessions
- Workshop on research methods
- Ethics
- Safeguarding

Year Two
2023 - 2024

- Citizen scientist/ researcher team meetings (once monthly)
- Q&A sessions
- Journal club for researchers
- Co create proposals
- Safeguarding

Year Three (extension)
2024

- Co created proposals to be shared with community groups
- Celebration event with policy and charity stakeholders
- Co-created evaluation sessions
- Dissemination of academic findings

Youth LIVES

Research teams

Access to mental health support & Mental Health support in schools
Cultural barriers to accessing mental health services in schools and interventions to overcome them

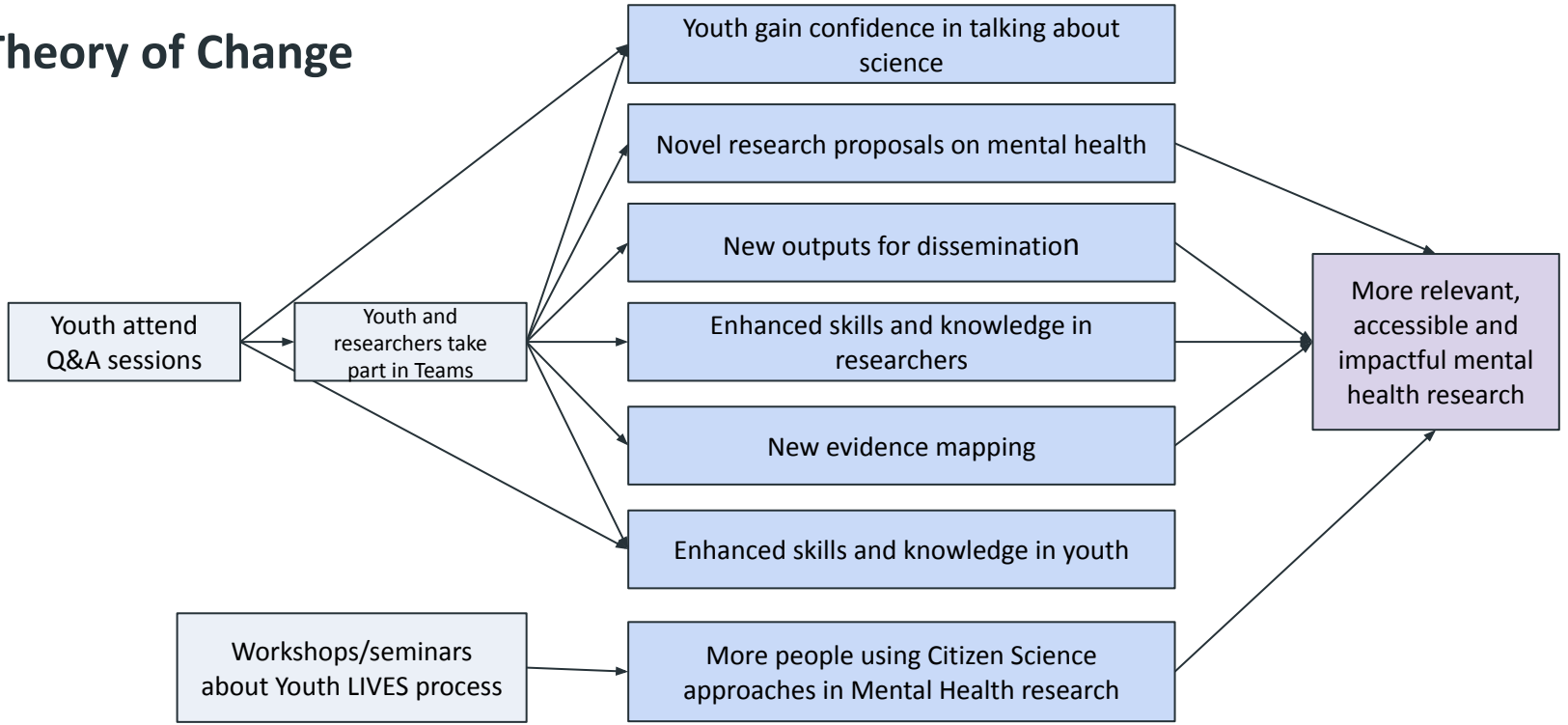
Neurodiversity and Mental Health in young people
The mental health and support of young people waiting on a neurodiversity diagnosis

Suicide and self harm in young people
The effects of interventions for young people at risk of suicide and self-harm on coping styles and help-seeking behaviour

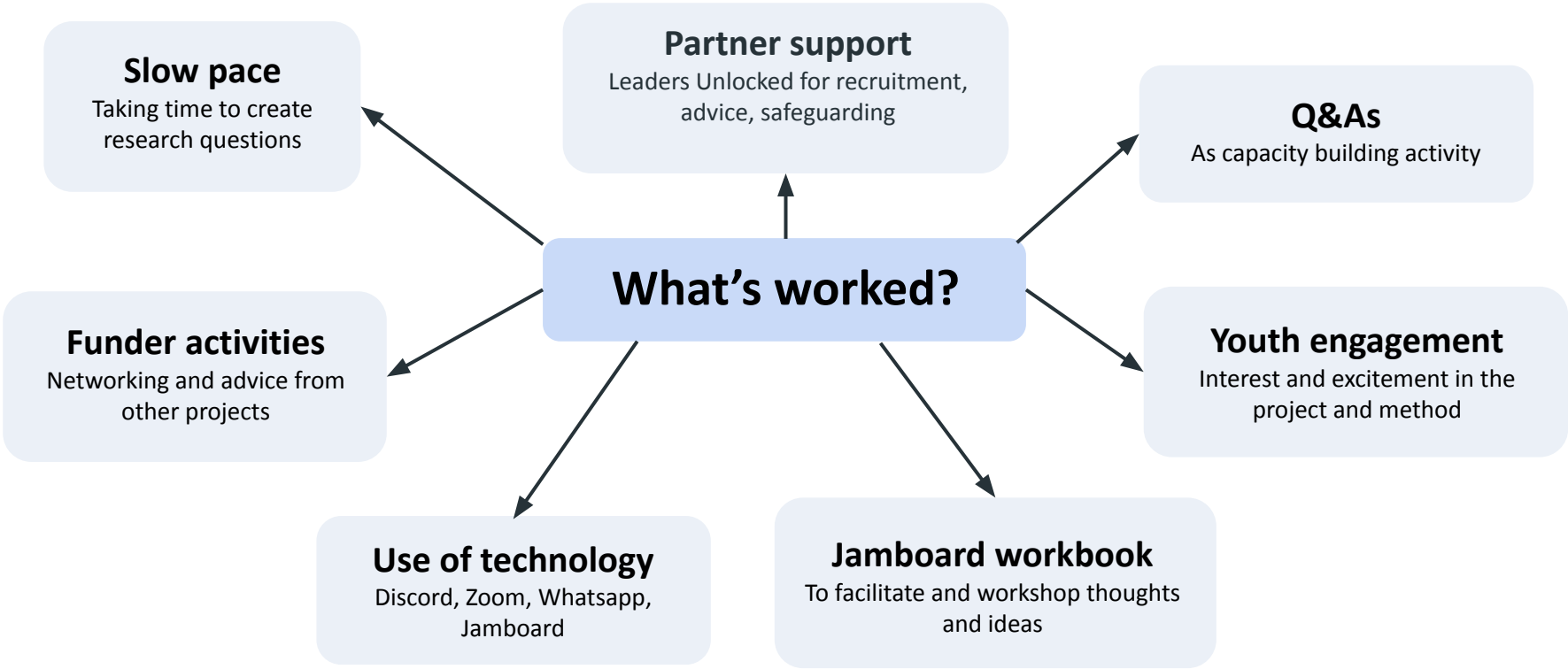
Mental Health and pets and animal companions in young people
The impact of pet ownership and pet therapy on the mental health of young people and the pets

Youth LIVES

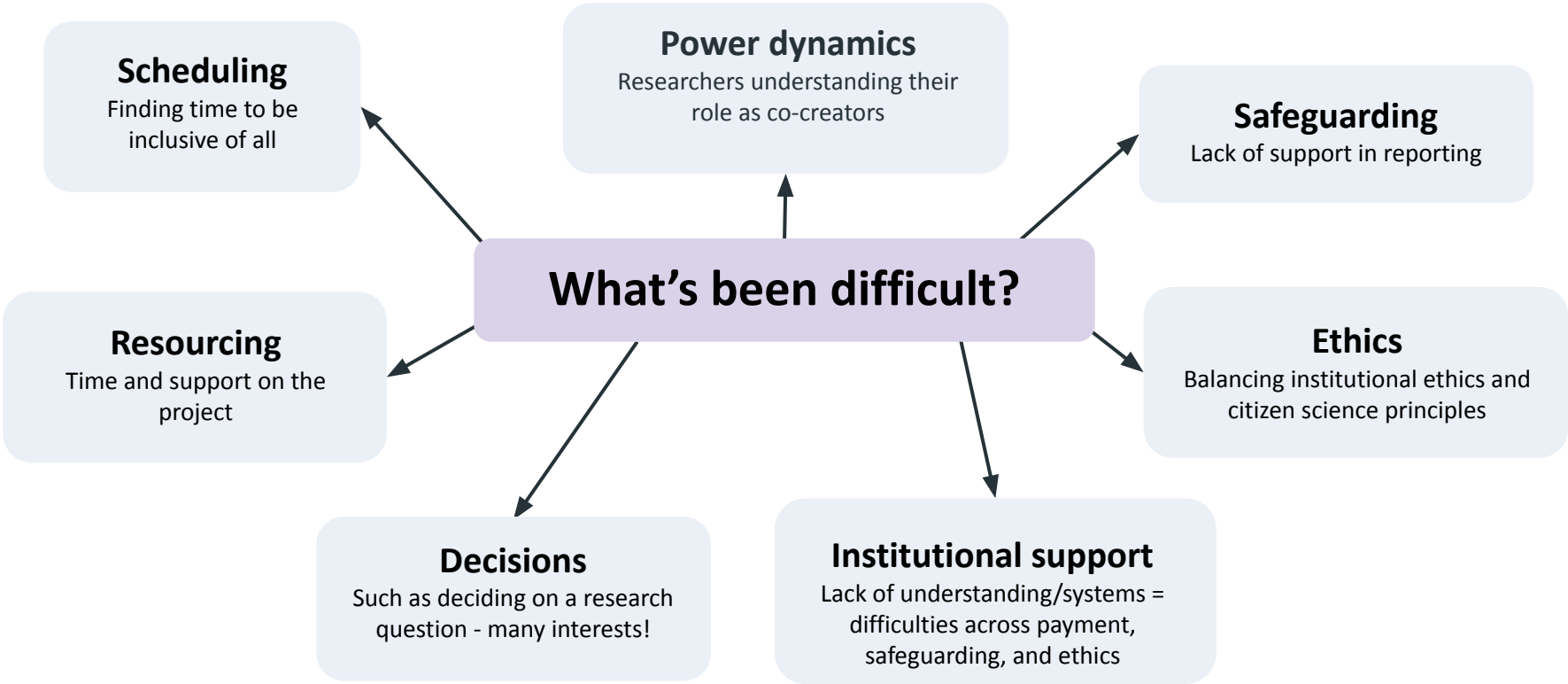
Theory of Change



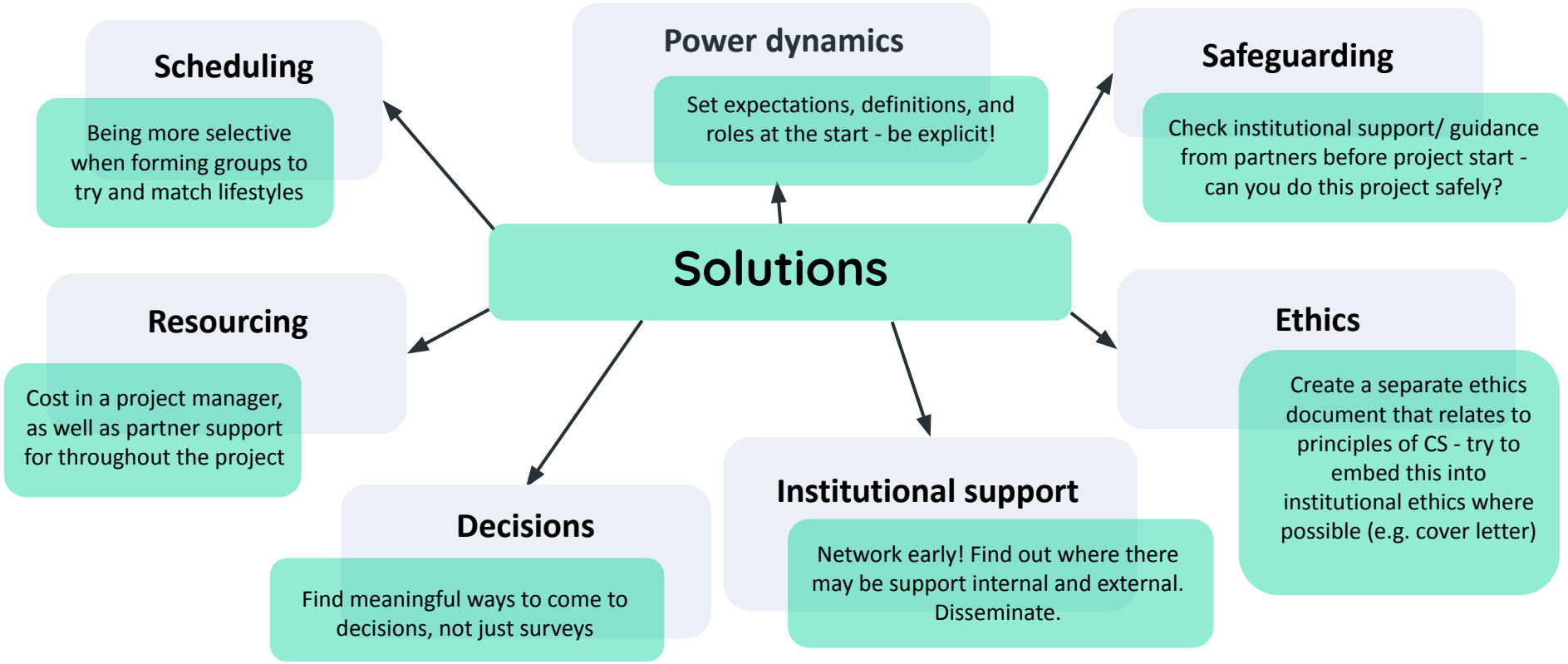
Youth LIVES


Slow pace
Taking time to create research questions
Partner support
Leaders Unlocked for recruitment, advice, safeguarding
Q&As
As capacity building activity
What's worked?
Funder activities
Networking and advice from other projects
Youth engagement
Interest and excitement in the project and method
Use of technology
Discord, Zoom, Whatsapp, Jamboard
Jamboard workbook
To facilitate and workshop thoughts and ideas

Youth LIVES


What's been difficult?
Scheduling
Finding time to be inclusive of all
Power dynamics
Researchers understanding their role as co-creators
Safeguarding
Lack of support in reporting
Resourcing
Time and support on the project
Ethics
Balancing institutional ethics and citizen science principles
Decisions
Such as deciding on a research question - many interests!
Institutional support
Lack of understanding/systems = difficulties across payment, safeguarding, and ethics

Youth LIVES


Scheduling
Being more selective when forming groups to try and match lifestyles
Power dynamics
Set expectations, definitions, and roles at the start - be explicit!
Safeguarding
Check institutional support/ guidance from partners before project start - can you do this project safely?
Solutions
Resourcing
Cost in a project manager, as well as partner support for throughout the project
Ethics
Create a separate ethics document that relates to principles of CS - try to embed this into institutional ethics where possible (e.g. cover letter)
Decisions
Find meaningful ways to come to decisions, not just surveys
Institutional support
Network early! Find out where there may be support internal and external. Disseminate.

Discussion

We are looking to gather best practice on co-created citizen science to gather into a guide, and would love your reflections on the following….

What are the best practices when doing co-created citizen science with underrepresented groups?	20 mins
What are the barriers to doing co-created citizen science work in your country / setting? How have you overcome these?	20 mins
How have you ensured a lasting legacy with co-created projects? Or how could you in future?	20 mins

You can also add your thoughts to the Jamboard: https://tinyurl.com/ECSAcocreation
Or email rhys.archer@york.ac.uk to stay in touch!

Thanks for participating!

If you would like to be included in a network to collaborate on the guide to co-created Citizen Science please email rhys.archer@york.ac.uk

SEI Stockholm Environment Institute

University of York