TableA1: Detailed domains of barriers and facilitators identified in co-designed research with young people

Domain	Facilitators	Barriers
Resources (n=25) *Assets or materials, such as time, money, knowledge, and tools, that are available and utilized to achieve specific goals or support activities.*	• **Ensure continuous funding and resource availability** to support the project's sustainability and success. • **Respect the experiences and knowledge of those involved** to validate contributions and enhance collaboration. • **Appoint a dedicated youth engagement coordinator** to focus on fostering effective participation and support for young people. • **Involve young people as co-facilitators** to empower them and enhance their leadership skills. • **Provide different roles, opportunities and additional support** based on strengths and interests of young people. • **Assign dedicated staff for support** to provide guidance and assistance throughout the research process. • **Embed longer timelines for capacity building into the project** to allow for meaningful development and growth. • **Maintain consistent involvement of young people (i.e. as co-researchers)** to build continuity and strengthen collaboration. • **Utilize community service providers, networks, and stakeholders** to enhance the	• **Lack of resources, including time and funding, limits genuine youth participation** by creating obstacles to engagement. • **High costs associated with developing youth culture in research** restrict opportunities for meaningful involvement. • **Inadequate staffing restricts project capacity** by limiting support and resources for participants. • **Significant time investment is required for co-design** which can hinder the project's timeline and progress. • **Insufficient duration and funding limit training and analysis opportunities** for participants and staff. • **Limited resources hinder mentorship and collaboration efforts** by reducing support for relationship building. • **Lack of research skills can pose challenges in data collection** and affect the quality of outcomes. • **External responsibilities, cost constraints, recruitment challenges, and transportation limitations** create barriers to participation. • **Existing barriers with local services limits interest and involvement** and reduces the

	project's reach and effectiveness. • **Tailor diverse, accessible, and flexible methods to the specific needs of the group** to maximize engagement and participation. • **Involve established groups where possible** to leverage familiarity and ease in collaboration. • **Use resources to simplify logistics and reduce the burden on young people** to enhance their participation and focus on the research.	support available for the project.
Communication (n=20) *The exchange of information, ideas, and feelings between individuals or groups through various methods, including verbal, non-verbal, written, and digital channels.*	• **Communicate how and why collaborative research methods are used** to ensure transparency and justification for involving young people in the research process. • **Use accessible language and tailored materials** to enhance understanding and engagement among participants. • **Employ youth-friendly communication tools** to increase participation and comfort for young people in the project. • **Implement pre- and post-briefing sessions for large meetings** to ensure clarity and alignment among participants. • **Provide quiet spaces for collaborative work** to foster focused and productive group interactions. • **Ensure strong communication and support** to build trust and encourage ongoing involvement from participants.	• **Lack of communication** negatively impacts decision-making and the effectiveness of meetings. • **Insufficient use of accessible language and layperson-friendly documentation** creates confusion and limits participation. • **Lack of digital skills and access** hinders effective virtual collaboration and engagement. • **Online meetings often lack engagement from young people**, resulting in diminished participation and interest. • **Digital exclusion** restricts access for some participants, limiting their ability to contribute. • **Communication barriers** significantly impact retention and participation.

	• **Foster motivation through open communication** to inspire active participation and commitment to the project. • **Prioritize effective communication, including consistent contact and flexibility across all environments (digital, in-person, and hybrid)** to support sustained engagement and adaptability to participants' needs. • **Clarify project possibilities** to empower participants with a clear understanding of their roles and contributions. • **Respect peer researchers' opinions** to cultivate an inclusive environment where all voices are valued. • **Welcome critical perspectives** to encourage diverse viewpoints and enhance the quality of research outcomes. • **Allocate time for reflection and challenge research epistemologies** to promote deeper understanding and critical thinking among participants.	
Process (n=32) *A series of actions, steps, or procedures taken to achieve a particular outcome, often involving planning, implementation, and evaluation.*	• **Provide clear structure and support throughout the research process** to enhance participant confidence and engagement. • **Define roles and responsibilities clearly** to ensure everyone understands their contributions to the project. • **Establish processes for building young people's capacity to participate** to	• **Time-consuming procedures hinder study progress, recruitment, and training** by delaying essential processes. • **Lack of processes can lead to inequities and ethical dilemmas, such as exploitation** by creating inconsistencies in participation. • **Tokenistic involvement limits meaningful participation** by reducing young people's role to mere formality.

	- empower them and foster active involvement. **Create and embed safe spaces and channels for support and inclusion** to promote a welcoming environment for all participants. **Assign concrete responsibilities for engagement** to encourage accountability and active participation. **Develop collective principles of work** to guide collaboration and mutual respect among participants. **Keep group sizes small** to enhance participation and foster meaningful interactions. **Define decision-making power at each stage** to clarify roles and enhance participant ownership of the process. **Give young people decision-making power** to empower them and enhance their commitment to the project. **Sustain trusting relationships through transparency** to build a positive and collaborative atmosphere. **Involve young people in project design and methods** to ensure their perspectives are reflected in the research. **Choose study methodologies that support engagement and enhance idea generation** to encourage creative input from participants. **Offer flexibility in project focus** to adapt	**Lack of quality assessment tools** undermines efforts to ensure ethical involvement and protect participants' rights. **Not offering market-level remuneration as fair compensation for young people's contributions** produces inequities. **Power imbalances and unclear roles pose challenges** by creating confusion and limiting engagement. **Generalized best practices are difficult to implement** because they don't often consider the diverse needs of all parties. **Frameworks are needed to guide best practices** and ensure consistent approaches across projects. **Young people juggle multiple roles, complicating their engagement** and making it challenging to participate fully.

	to the evolving interests and needs of participants. • **Encourage peer collaboration** to foster a sense of community and shared responsibility. • **Use multiple virtual environments** to enhance inclusivity and accommodate diverse preferences. • **Select appropriate study methodologies and adapt methods as needed** to engage young people effectively and stimulate idea generation. • **Engage external consultants for evaluation** to bring in fresh perspectives and ensure quality assessment.	
Agency (n=22) *The capacity of an individual, group or organisation to make choices, act independently, and the ability to shape one's actions and decisions, direct others and resources to achieve desired outcomes.*	• **Respect the agency and interests of young people** to empower them and encourage authentic participation. • **Share power and treat youth as equals** to foster a collaborative and inclusive atmosphere. • **Co-create accessible and understandable topic guides** to enhance comprehension and engagement in the research process. • **Acknowledge the possibilities and limitations of collaborations** to set realistic expectations and build trust among participants. • **Implement youth-led training initiatives** to foster agency among groups and individuals.	• **Difficulty managing expectations and sustaining engagement** hinders participants' commitment and project success. • **Lack of diversity and potential exclusivity in co-production** limits representation and the richness of perspectives. • **Recruitment challenges and funding continuity issues** restrict capacities and impede project development. • **Stigma, power imbalances, and location barriers impact participation** by creating obstacles to engagement. • **Fluctuating wellness affects ongoing engagement** and can lead to inconsistent participation.

	• **Ask for and actively listen to feedback** to demonstrate value for participants' perspectives and improve the project. • **Foster a recovery-focused environment** to support well-being and resilience among participants. • **Value the expertise of lived experience** to enrich the research process with authentic insights. • **Encourage interpretive ownership of data** to empower young people in understanding and utilizing their contributions.	• **Unclear expectations and responsibilities impact young people's sense of agency** by creating confusion about their roles. • **Dropouts disrupt project management and data collection** by creating gaps in information and continuity. • **Emotional impacts on co-researchers affect their well-being** and may hinder their ability to contribute effectively. • **Conflicting priorities during data collection** complicate participation and can lead to disengagement.
Investment (n=27) *The allocation of resources, such as time, effort, or capital, into activities or assets with the expectation of generating returns or achieving future benefits.*	• **Invest early and continuously from leadership** to establish a strong foundation for the research. • **Prioritize emotional and physical accessibility throughout the research** to ensure all participants can engage fully. • **Be transparent about collaborative methods from the outset** to build trust and clarify expectations. • **Ensure flexible work modes and provide mentoring** to accommodate diverse needs and enhance support for participants. • **Provide training to adult collaborators on working with young people** to facilitate effective communication and collaboration. • **Maintain flexibility with time and location** to accommodate participants' schedules and preferences.	• **Unexpected delays or events may occur** and undermine investment in the project. • **Lack of diversity in representation** limits diverse perspectives and inclusivity in the research. • **Sustaining engagement while balancing diverse perspectives** can create challenges in collaboration. • **Unresolved disagreements between youth researchers and other team members** hinder progress and morale. • **Adult attitudes and assumptions can limit collaboration** by creating power imbalances. • **Marginalization and restricted involvement in decision-making** prevent meaningful contributions from young people. • **Need for reflection on practices and ensuring meaningful contributions** to

	• **Conduct workshops in familiar settings** to create comfort and encourage participation. • **Use adaptable approaches to foster engagement** and respond to the evolving dynamics of the group. • **Leverage technology for communication and leadership** to enhance coordination and connectivity among team members. • **Influence all stages of the study to drive meaningful change** by ensuring active involvement from participants. • **Allocate time for experience mapping and co-designing solutions** to incorporate diverse insights and foster ownership of the outcomes.	improve the quality of collaboration. • **Lack of training on relevant social research models** (e.g., social model of disability, decolonizing models for working with First Nations young people) limits effectiveness. • **Need for training in participatory approaches and incorporating diverse perspectives** for both young people and adults to enhance collaboration. • **Limited understanding of stakeholder and adult viewpoints** can hinder effective communication and alignment.
Relationships (n=17) *The connections, associations, or interactions between individuals, groups, or entities, often characterized by shared experiences, communication, and mutual influence.*	• **Build safe and trusting relationships to minimize power imbalances** and create a supportive environment for all participants. • **Recognize and account for intersectional experiences** to ensure inclusivity and understanding among participants. • **Utilize relationships to strengthen research capacity across all participants** by fostering collaboration and knowledge sharing. • **Promote leadership capabilities at all levels** to empower participants and enhance project outcomes. • **Revisit key themes and discuss**	• **Managing diverse attitudes and opinions effectively** can be challenging and may create tension in discussions. • **Ensuring the selection of appropriate participants** is crucial, as mismatched groups can hinder engagement. • **Addressing initial unfamiliarity between youth and academics** may create barriers to effective communication and collaboration. • **Failing to support the development of young participants' confidence** can hinder their engagement and contributions. • **Engaging youth while navigating differing opinions in focus groups and discussions**

	summaries collaboratively to ensure shared understanding and collective ownership of the research.	can complicate consensus-building.
	• **Collaborate across disciplines and with stakeholders** to enrich the research with diverse perspectives and expertise.	• **Inadequate time and effort invested in relationship building** limits trust and collaboration among participants.
	• **Give recognition and acknowledgment for the training undertaken by young people for the project** to validate their contributions and enhance motivation.	• **Reluctance to discuss sensitive topics** can stifle open communication and hinder the exploration of important issues.
	• **Create warm and welcoming environments** to encourage open communication and participation.	• **Slow progress in sharing personal information** can impede relationship development and trust-building.
	• **Dedicate time to relationship building** to foster trust and effective collaboration.	
	• **Address differing priorities through shared language** to facilitate understanding and cooperation.	
	• **Balance conflicting priorities effectively** to maintain focus and cohesion within the group.	
	• **Provide mentorship and opportunities for relationship building** (both formal and informal) to enhance support and connection among all parties.	