Ethical Considerations and Research Procedures

1. Research Context and Ethical Assessment

Eichstätt – A City for All was designed from the outset as a citizen science research project involving young people as co-researchers in the investigation of public space. The research was conducted in cooperation with a school within the framework of a voluntary extracurricular activity.

During the planning phase, we considered the European Citizen Science Association's *Ten Principles of Citizen Science* (ECSA, 2015), the recommendations for citizen science projects involving schools by Kiessling et al. (2023), and the German Research Foundation's (DFG) guidance on ethics committee statements.

In assessing whether formal ethics committee review was required, we referred particularly to Section 1(c) of the DFG guidance, which addresses research in the social sciences and humanities. According to these guidelines, an ethics committee statement is generally required for studies involving patients or human biological material. Neither was involved in our research.

The DFG further identifies circumstances in which ethics committee review may be necessary, including significant psychological distress, physical risks, deception or particular social and professional risks. We assessed our research against these criteria. The study did not involve physical interventions or risks, psychological distress beyond everyday experience, deliberate deception, or withholding information about the research. Based on the nature of the activities and the safeguards implemented, we did not anticipate particular social or professional risks to participants. We nevertheless recognised the need to protect confidentiality, particularly given the relatively small local research context. The participation of minors required particular consideration. We therefore paid specific attention to informed consent, voluntariness, appropriate support, and the participants' well-being. Taking these factors into account, we concluded that formal ethics committee review was not required.

This was our assessment as the research team. No formal ethics committee review took place, and no institutional body formally determined that the project was exempt from such a review. The DFG guidance served as a reference for our ethical assessment.

2. Ethical Responsibility and Participation

Our approach to ethical responsibility was informed by the ECSA's *Ten Principles of Citizen Science* (2015), particularly the meaningful involvement of citizens in scientific research, opportunities to participate in different stages of the research process, and attention to ethical issues, including confidentiality. We also considered the specific challenges of involving school students in citizen science, as addressed by Kiessling et al. (2023).

We understood ethical responsibility as an ongoing part of the research process rather than a matter limited to obtaining consent. Throughout the project, we repeatedly discussed ethical questions within the research team. These discussions included the appropriateness of research tasks, individual support needs, and the prevention of excessive demands on participants.

Participation was voluntary and not graded. Young people could decline individual activities or withdraw from the project without negative consequences. Some participants made use of this possibility. We respected these decisions as part of their autonomy as co-researchers.

Our aim was to enable meaningful scientific participation while taking account of the young people's different needs, abilities, and well-being.

3. Informed Consent, Confidentiality and the Declaration of Helsinki

Before participation, the young people and their legal guardians were informed about the project's objectives, planned activities, and intended use of the research material. The students gave their oral consent to participate. Adult participants in the expert interviews and collective mapping activity were likewise informed about the purpose of the research and the intended use of the data. Their informed consent was obtained before data collection.

Research data were treated confidentially and stored on secure servers at the Catholic University of Eichstätt-Ingolstadt. Data were anonymised for publication. Given the small-town setting, particular care was taken to limit the possibility of identifying individuals through contextual information. This also informed our decision not to make certain qualitative research materials publicly available.

We also considered the ethical principles expressed in the World Medical Association's *Declaration of Helsinki* (2024). The Declaration explicitly addresses medical research involving human participants. Consequently, substantial parts concerning medical interventions, physicians, biological material, placebos, and post-trial provisions were not applicable to our non-medical social science research. However, our research adhered to the principles relevant to our context, particularly the protection of privacy and confidentiality (§24), voluntary and informed participation (§25), and the provision of information and the possibility of declining or withdrawing from participation without disadvantage (§26).

Overall, we approached our ethical responsibility through an assessment of the specific research context, informed and voluntary participation, continuous reflection with the young co-researchers, and the protection of all participants' interests and confidentiality.

References

German Research Foundation (DFG). *FAQ: Statement by the Ethics Committee*, particularly Section 1(c), Information on Proposals in the Social Sciences, Humanities and Engineering Sciences. https://www.dfg.de/en/research-funding/proposal-funding-process/faq/ethics-committee-statements

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